SUPERFUND REAUTHORIZATION (Part 2)

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Superfund Reauthorization (Part 2),...

HEARINGS

BEFORE THE

SUBCOMMITTEE ON

COMMERCE, TRADE, AND HAZARDOUS MATERIALS

OF THE

COMMITTEE ON COMMERCE
HOUSE OF REPRESENTATIVES

ONE HUNDRED FOURTH CONGRESS

FIRST SESSION

MAY 23, 1995—REMEDY SELECTION
JUNE 15, 1995—STATE ROLE-VOLUNTARY CLEANUP
JUNE 20, 1995—NATURAL RESOURCES DAMAGE

Serial No. 104–30

Printed for the use of the Committee on Commerce

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SUPERFUND REAUTHORIZATION
Remedy Selection

TUESDAY, MAY 23, 1995

HOUSE OF REPRESENTATIVES,
COMMITTEE ON COMMERCE,
SUBCOMMITTEE ON COMMERCE, TRADE,
AND HAZARDOUS MATERIALS,
Washington, DC.

The subcommittee met, pursuant to notice, at 10:05 a.m., in room 2123, Rayburn House Office Building; Hon. Michael G. Oxley (chairman) presiding.

Members present: Representatives Oxley, Gillmor, Greenwood, Crapo, Bilbray, Whitfield, Ganske, Frisa, Norwood, White, Tauzin, Brown, Lincoln, Stupak, Bliley, and Dingell.

Also present: Representatives Bliley and Dingell.

Staff present: Nandan Kenkeremath, majority counsel and Richard A. Frandsen, minority counsel.

Mr. OXLEY. The subcommittee will come to order.

We have opening statements, and then we will welcome our witnesses. We can both protect public health from real risks to save billions of dollars in our Nation's waste cleanup programs by taking substantial and concrete actions in the 104th Congress.

Indeed, when you consider the entire range of Federal cleanup programs, we can prevent the unnecessary expenditure of as much as several hundred billion dollars over the next 20 years.

Two principles are the key. First, we must have truly objective, unbiased and realistic risk assessments. We cannot afford to continue to spend billions on excessively speculative, hypothetical and exaggerated risks. Compound conservative assumptions and unrealistic exposure scenarios exaggerate risks by factors of a hundred, a thousand or even a million, and simply are another way of ignoring the best available science and the best estimate of the true risks.

Second, the system must provide accountability for the incremental costs and benefits of each alternative remedial option. We simply cannot afford the tens of billions of dollars in incremental costs for excavating tons of dirt or pumping and treating groundwater for decades when the water will not serve as a source of drinking water.

A letter I have received from the Philips Electronics Company concerning the Drake Superfund site is one of several that illustrates the current problems and the need for substantial change. EPA has chosen the most expensive remedies among those available, incineration of all 9 acres to a depth of 12 feet at a cost of

$56 million followed by approximately $30 million in expenditures to cleanup groundwater which no one is going to drink or use for any other purpose. Overall costs of the remedy could exceed $100 million. Capping and containing, on the other hand, would cost only $12 million and fully protect the public health.

The letter states that title II of H.R. 1022, the Risk Assessment and Cost/Benefit Act of 1995, alone could have saved as much as $100 million at a single Superfund site if it had been law at the time EPA issued its record of decision.

There is sufficient support in this Congress for the principles of H.R. 1022, and there was more than sufficient support in the 103d Congress. Unfortunately, the Rules Committee in the 103d Congress failed to bring Superfund to the floor for a fair and honest debate.

Although last year's legislation supported unbiased risk assessment and incremental cost/benefit analysis in important ways, the legislation failed to remove obstacles to the use of these principles for groundwater and hot spots.

Moreover, by precluding the use of site-specific data and the reasonably foreseeable uses of groundwater, the bill would have continued the statutory dictates of ignoring reality in the program. Moreover, H.R. 4916 may have produced some categories of cost savings, but only frittered away those savings by applying Davis-Bacon wage laws to Superfund. That will not happen in the 104th Congress.

Amendments proposed by Messrs. Fields, Barton, Schuster, Geren, Condit, Mica and myself, were all designed to address these concerns. These amendments were supported by the National Association of Manufacturers, the American Iron and Steel Institute, the American Petroleum Institute, the American Mining Congress, the National Food Processors, the Grocery Manufacturers of America, the National Association of Metal Finishers, and the U.S. Chamber of Commerce, among others.

Accordingly, I take exception to the charges by the administration and elements of the news media that the House Republican leadership killed Superfund in the 103d Congress by insisting on making my amendment and other amendments in order. Those statements and reports are just part of the intricate layers of hype and mischaracterization that has continued into the 104th Congress. Contrary to administration claims, realistic risk assessments and cost/benefit analysis do not rollback 25 years of environmental protection.

I further note that the administration's current opposition to judicial review and real accountability seem to have no play when both industry and environmental groups sought a judicially reviewable national risk protocol in Superfund.

I hope the administration will get past this shrill and hypocritical approach to public policy. House Republicans and many Democrats are no longer equivocal on the issue of site-specific realistic risk assessment and the consideration of incremental costs and benefits as important statutory changes to bring the Superfund house in order.

Today we will continue to hear testimony concerning the need for substantial change in the Superfund Program from a variety of in-

dividuals and organizations. This hearing should add to the already extensive record established in the 103d Congress, and I look forward to hearing from today's witnesses.

[The letter referred to follows:]

PHILIPS ELECTRONICS,
Washington, D.C., March 23, 1995.

HON. MICHAEL OXLEY
House of Representatives,
Washington, D.C.

DEAR MIKE: We at Philips Electronics wish to thank you for your leadership with respect to passage of H.R. 1022, the *Risk Assessment and Cost-Benefit Act of 1995.* This legislation provides a long overdue common sense approach to the promulgation of regulations. At long last the economic impact of proposed regulations will be measured and the cost effectiveness of alternative strategies will be given full consideration during the rule-making process.

I particularly wish to thank you for your and Mr. Walker's successful efforts to amend the bill to apply the requirements of Title II of the Act to environmental cleanups. This provision along could have saved Philips Electronics as much as $100 million at a single Superfund site if it had been law at the time the EPA issued its Record of Decision.

The Drake Superfund site in Lock Haven, Pennsylvania is a nine acre orphan site once owned and operated by the now defunct Drake Chemical Company. To date, the EPA and Justice Department have spent close to $14 million in oversight expenses, much of which have been devoted to suing Philips in a cost recovery action, even though no proof exists that Philips contributed to the hazardous materials on the site. The EPA has chosen the most expensive remedy among those available: incineration of all nine acres to a depth of 12 feet at a cost of $56 million over a five year period. This will be followed by approximately $30 million in expenditures to clean up ground water which no one is going to drink or use for any other purpose. In this economically depressed area, the Drake site, once cleaned up at an expense of over $100 million will have a market value of no greater than a few hundred thousand dollars.

An alternative strategy would be to cap the site and contain the relatively slow migration of ground water all of which could be accomplished for less than $10 to $12 million and require far less time. Thus the Lock Haven City government can act sooner to attract badly needed industry to the site and the population would enjoy protective levels of risk on a par with the more expensive alternative chosen by the EPA.

H.R. 1022's requirements for sound scientific risk assessment would also have prevented the egregious injustice being visited upon Philips at the Drake site. The text of EPA's rationale for choosing the incineration option includes this statement: "The agency has selected this alternative because the chemical analysis has shown that the level of contaminants throughout the site do present a risk and it is known that some of the specific compounds *could be present even if they are not specifically detected by analytical methods.* Therefore, the entire site . . . (is) slated for excavation and incineration."

The very idea that the agency would select a particular remedial option, much less the most expensive alternative, based in part upon an assumption that certain chemical compounds "could be present" makes as compelling a case for sound scientific risk assessment as can be made.

While it may be too late to change the status of the Drake site, the final enactment of this bill will prevent similar egregious situations in the future. If the language of the environmental cleanup amendment is not included by the Senate in its companion bill, I urge the House to insist it be incorporated into the conference report.

With thanks and best wishes, I am
Sincerely,

RANDY

Mr. OXLEY. With that, I would recognize the chairman of the full committee.

Mr. NORWOOD. The chairman asks unanimous consent that his statements be included in the record, please.

Mr. OXLEY. Without objection, that is so ordered.

[The opening statement of the Hon. Thomas J. Bliley, Jr., follows:]

PREPARED STATEMENT OF HON. THOMAS J. BLILEY, JR., CHAIRMAN, COMMITTEE ON COMMERCE

At our first Superfund hearing in March, we heard testimony from Charles Newton concerning a Superfund site in Saltville, Virginia, where the EPA has recently proposed that Olin Corporation excavate several acres of a former industrial plant site and then incinerate the excavated soil. Mr. Newton testified that "EPA did not carefully consider the adverse impact upon the community of incinerating soil containing mercury...EPA's plan would increase costs by more than $20 million, with no corresponding benefit to public health or the environment." Olin Corporation estimated that transporting the soil would require 10,000 dump truck loads being moved to and from the incinerator. Virginia's Secretary of Natural Resources and the citizens of Saltville oppose this remedy proposal.

The problem is that the 1986 Superfund Amendments promote this kind of lunacy.

We also heard from Donna Rose, representing the Concerned Citizens of Triumph, Idaho, who spoke of Superfund sites "in Aspen, Colorado, where 10 years of EPA involvement has resulted in financial loss, stigma, property devaluation...and hundreds of lives put on hold." One would have thought, said Mrs. Rose, that the EPA would have "learned from its past mistakes in Aspen, Leadville, and dozens of other mining sites...but once again the EPA marched on, driven by its flawed risk assessment and soil removal policies."

Like the other sites, the residents of Triumph do not have elevated blood-lead levels nor is there lead in drinking water. Mrs. Rose testified that by 1992 the community had lost all trust and confidence in EPA.

At the last hearing, EPA Administrator Browner's response was that EPA had deferred the issue to the State of Idaho. Well, that's not a good enough response.

In today's hearing, we will continue to hear testimony that the stories of Triumph and Saltville are not isolated examples but part of a systematic pattern of unrealistic risk assessments and failure to carefully weigh and consider costs and benefits.

While the short-term emergency removal program has been a success, the remedial program has been, by any measure, a travesty. Costs per site average over $30 million. Remediation takes over 10 years for completion. As we have seen, the remedial program is also the source of incredible frustration with little to show in terms of real risk reduction. It is time we live up to the responsibility of setting these programs on a realistic, cost-effective course.

Unfortunately, the EPA Administrator, like others in this Administration, offers only fear and hype in response. She talks of "rolling back 25 years of environmental protection." No, Ms. Browner, we're talking about common sense in prioritizing risks and assessing costs. Hype is not a policy. Fear is not a response.

Treating railroad yards as if they will be sources of drinking water is unrealistic and unacceptable. Remedy selection must be realistic, with full consideration of relative risks and costs. Today, sadly, it often is based on treatment for treatment's sake, and unrealistic risk scenarios.

I look forward to today's hearing so that we can develop common sense solutions to address these problems without needlessly throwing money away.

Mr. OXLEY. I would recognize any other members for an opening statement.

The gentleman from California.

Mr. BILBRAY. Yes, Mr. Chairman. I want to thank you for calling this hearing today to discuss this important issue.

Mr. Chairman, I have a written testimony statement that I would like to enter into the record, but after hearing your testimony, I don't think I am going to read it. I am going to say, though, that I have to agree almost, if not totally with your statement about the fact that we really need to bring the reality of what is public health and what isn't public health to the format. You brought up certain business community and certain industries.

Mr. Chairman, my background tends to come from the other side. I have been involved over the last 18 years in different levels of

public health protection, and one of my greatest concerns about the Federal strategy over the last two decades with Superfund is that environmental health people have come to me. I still remember the director of my environmental health department coming to me frustrated with the fact that the Federal regulations not only had huge economically adverse impacts, but that public health was being sacrificed to government regulations.

When you have people who are committed to protecting the public health who are involved in the bureaucracy for the good of the public, and then to run into Federal regulations that they feel stand in the way of protecting that public health, it does cause some major, major problems for the individuals who have to enforce it.

As somebody who has had to operate from that side, not from the business side but from the public health side, I look forward to this hearing, and I look forward to the testimony. I look forward to us really having the guts to step forward and say that the strategies that are 25–30 years old were well intentioned, but with the new data we need to redesign it to make sure that the public health takes priority over old government regulations that may not be doing the job.

Mr. Chairman, I think that when we see situations, as you pointed out, where certain procedures are required by Federal bureaucracy or regulation, and those procedures not only may not be needed when looked at from a reasonable point of view of public health exposure, but when those procedures actually may constitute a considerable increase of public health exposure by executing the Federal mandate as interpreted by the Federal agencies, I think that there are times that we now have a right to start looking into this. We have a responsibility to make sure that our Federal environmental laws and our public health laws are not only taking care of the problem, but it has gotten to the point where we have to make sure that they are not endangering the citizens because it is not reflecting the reality in the streets of America.

With that, Mr. Chairman, I would like to hear the rest of the testimony.

Mr. OXLEY. The gentleman's time has expired.

Does the gentleman from Georgia have an opening statement?

Mr. NORWOOD. Yes, I do, Mr. Chairman.

Mr. OXLEY. The gentleman is recognized.

Mr. NORWOOD. I thank you for calling this hearing and, as you know, I am new to this subcommittee, and this is the first time I have had to look closely at Superfund. Let me tell you, I have had to use the term "shocked" many times since I came to this city, but in examining the record of the EPA in implementing Superfund, I have had to use the term again.

It seems to me that since the Superfund statute's inception, the EPA has gone out of its way to justify its existence. It has avoided the normal rulemaking process, and ignored common sense to the detriment of both the economy and environmental health of the localities where they were supposed to cleanup and protect.

While there is universal agreement that the EPA's short-term removal program has been effective in removing immediate threats to human and environmental health, their long-term remedial ac-

tion program has come under attack for ignoring common sense, ignoring local concerns, and ignoring the cost versus the benefit of the cleanups that they choose.

Hopefully this committee with the help of our friends on the Transportation Committee can craft a Superfund reauthorization that provides some level of common sense and incorporates more local input.

I would like to thank all of the witnesses for joining us to share with us their concerns and opinions on Superfund. I would especially like to thank Dr. Barry Johnson, the Assistant Administrator of the Agency for Toxic Substances and Disease Registry at the Health and Human Services. He has managed to make it up from my great home State of Georgia.

I look forward to this hearing, and I expect this to be just the tip of the iceberg in Superfund.

Thank you, Mr. Chairman, and I would yield back the balance of my time.

Mr. OXLEY. The gentleman yields back.

The gentleman from Idaho, Mr. Crapo, do you have an opening statement?

Mr. CRAPO. Yes. Thank you, Mr. Chairman. I also appreciate your holding this hearing. As the Chair well knows, we have gone through a lot of this in the previous Congress and we have had a significant amount of discussions about the issues of remedy selection and Superfund.

I am concerned about a number of issues. The fact that we don't have a requirement for risk assessment in the implementation of regulations under Superfund. The fact, as we have discussed almost endlessly, that we have such conservative default values that are used in evaluating remedies instead of site-specific data. The fact that we don't have requirements that the Agency focus on site-specific considerations rather than cookie-cutter solutions developed in Washington which, all too often, result in increased costs and lower remedies, and less successful remedies.

I want to talk for just a minute about specific issues relating to Idaho. We have three sites in Idaho for which this is very critical. In March, if you may recall, Donna Rose from the Town of Triumph gave pretty stirring testimony before this committee about the misguided efforts of the Environmental Protection Agency in the enforcement of Superfund. She spoke of arrogant officials who refused to work with the town and gave Triumph the highest hazard rate ranking system rating in Superfund history.

Now this ranking was based in large part on an initial lead test that later proved to be wrong. To their knowledge, no one in Triumph has ever suffered any ill-effects from the mine tailings that the EPA insisted were so dangerous.

I might add here, as I pointed out in that hearing, Triumph is a small enough town that we were able to test every single individual who lived in the town. This wasn't just a sampling. Nonetheless, the remedy of choice by the EPA was soil removal, one of the most expensive remedies available at a Superfund site. No sound risk assessment was performed, no cost/benefit analysis was done. The EPA chose a remedy that even the affected citizens were adamantly opposed to. No logical argument seemed to be able to sway

the EPA from this course of action until efforts by the town alerted the Idaho Congressional Delegation and the national media.

EPA ignored the results of their Three-Cities Lead Study, which I have inquired about for now going on 3 years, which we still do not have out from the EPA because, after spending $17 million on this project, apparently the results don't seem to satisfy what the EPA would like to see. The Three-Cities tests showed that no significant blood level increases, except in one instance, occurred, and that instance was not attributable to lead in the soils.

Mr. Chairman, it is imperative that risk assessment and cost/benefit analysis become an integral part of remedy selection. Hypothetical worst case scenarios should not be the measurement by which a remedy is based. The system is broken when the default value used in lieu of site-specific data can be based on the assumption that a child might eat and ingest handfuls of dirt daily.

The Comprehensive Environmental Response Compensation and Liability Act was hastily enacted a decade ago, and it has proven ineffective and costly to our citizens, both publicly and privately. It is time now to realign Superfund and adjust it to a reality based on economics as well as our environment that will help our citizens, that will make a strong and clean environment, and help us to address some of the significant economic issues that are forced on us by this legislation.

Thank you, Mr. Chairman.

Mr. OXLEY. Anyone else?

Does the gentleman from New York have an opening statement?

Mr. FRISA. Yes, Mr. Chairman. I, too, would like to express my thanks and appreciation to you for your leadership in calling this hearing so that we may begin on a timely basis of effecting changes to the Superfund Act so that we can begin cleaning up problem sites and get out of the courtroom and get out onto the sites in order to effectuate those cleanups that are much needed.

I, too, would echo the sentiments of my colleague from Idaho in terms of attempting to bring some sanity to the Superfund process, so that, again, we can actually begin cleanup and effectuate those changes and protect our environment, and try to prevent some of the needless wasting of funds that have been expended in terms of costly litigation.

I look forward to working with you and the members of the committee, Mr. Chairman, toward that end.

I yield back the balance of my time.

Mr. OXLEY. The gentleman yields back the balance of his time.

The gentleman from Ohio.

Mr. GILLMOR. Thank you, Mr. Chairman, and I commend you on this very important hearing on the subject of remedy selection.

During our subcommittee hearing, Superfund hearing, in March, I began to touch on my concerns about remedy selection during my questioning of Elliot Laws, and I hope today we will unfold a larger followup question.

Two years ago, the New York Times ran a series of articles noting that scientists and economists have reluctantly come to the conclusion that a good deal of America's environmental policy over the last 15 years has been "a reaction to popular panics not in response to sound scientific analysis." These stories went on to conclude that

experts felt billions of dollars are wasted each year battling problems that are no longer considered especially dangerous leaving little money for others that cause real harm, and that brings us to Superfund.

The EPA was overseeing the last phases of a $20 million cleanup project in Columbia, South Carolina. Part of the assumption for and regulation of the cleanup was that children would be able eat dirt every day for 70 years and not develop cancer. Soil concentrations of the hazardous chemicals were about two ounces in a ton of soil. Some experts told EPA that such tiny amounts of contamination were harmless, and that the safest, most economical way to solve the problem was spreading a layer of cleaner soil on top. Total cost of that, $1 million.

Instead, EPA required the former owner to dig up more than 12,500 tons of soil, haul it to a commercial dump, 450 dump truckloads at $7,500 each. Nationwide, as of 1992, the New York Times reports that the United States has spent over $14 billion to comply with similar dirt eating rules.

It would be one thing if EPA blew it on 1 or 2 remedy selections, but EPA continues to exaggerate cancer and other risks from minute amounts of chemicals in soil and groundwater. Last month, Michael Steinberg of the Hazardous Waste Clean Project testified for us that the EPA risk assessments overstate the risk of exposure to such chemicals by as much as 1,000 fold. EPA cancer estimates are not best estimates. Rather, they are upper-bound estimates based on numerous compound conservative assumptions. In fact, most EPA cancer appraisals are based on megadosing rodents with concentrations hundreds of thousands of times above the regulatory level. According to scientists, the risk assessment extrapolated from such studies may, in fact, be zero. EPA officials have repeatedly mischaracterized the risk factor relating to cancer posed by minute amounts of atrazine in drinking water, and I have attached a description of this problem to my written statement. I ask that that be made a part of the record.

Mr. OXLEY. Without objection.

Mr. GILLMOR. Thank you, Mr. Chairman.

It is my feeling, Mr. Chairman, that many of the people today who are parading under the environmental banner are, in fact, anti-environmentalists. We have a finite amount of resources to deal with public health and safety concerns, and to the extent that these people force those resources to be wasted on nonexistent or minute risks, they impair the public health and safety by preventing that money being used on real risks and on real dangers to the populous.

I thank you, Mr. Chairman.

[The document referred to follows:]

IGNORE THE "BODY COUNTS": CAROL BROWNER DOES NOT UNDERSTAND THE MEANING OF EPA'S OWN RISK METHODOLOGY

In an effort to "ensure that the debate before Congress is based on full facts," Carol Browner has taken to the frequent practice of misrepresenting the scientific meaning of risk estimates based on extrapolating cancer risks from extremely high carcinogenic doses in rodents to extremely low doses in humans. Ms. Browner claimed that drinking just two liters of water a day at EPA's current standards for atrazine results in a one-in-100,000 cancer risk which is equivalent to a projected

2,600 additional cancers. Again, this is the kind of inaccurate hype designed to scare the American people.

Atrazine is a class C possible carcinogen, which means there is no human data regarding atrazine and carcinogenicity. The only evidence is that some rodent species—subjcted to levels of atrazine 100,000 times the level of EPA's drinking water standard—produced higher cancers in the test group than the control group of rodents.

Extrapolating cancer effects from such high doses is a controversial proposition. Applying comparisons among plausible extrapolation models show an incredible range of estimates which can be thousands of fold below EPA's model. Beyond the choice of the extrapolation model, other conservative factors exaggerate the risk relative to more plausible assumptions. A chart prepared by Dr. Elizabeth Anderson, the Head of EPA's Carcinogen Assessment Group in 1984, listed just six of the many assumptions which may exaggerate risks by a factor of anywhere from 16 to 10,800.

Accordingly, EPA's background documents make it clear that it's methodology "does not give a realistic prediction of risk." EPA's 1986 guidance further states that:

> The true value may be as low as zero. The range of risks, described by the upper limit given by the chosen model and the lower limit which may be as low as zero, should be explicitly stated.

Ms. Browner has both failed to follow this guidance and mistakenly multiplied an upper-bound estimate as an expected risk estimate—which it is not. It is, thus, inappropriate and misleading to state that scientific analyses project an additional 2,600 incidences of cancer. The best estimate of the risk is orders of magnitude below this level.

This is a frequent mistake that EPA and other Federal officials are prone to make in the public discussion of risk issues resulting in claims based more on hype and scare tactics than on unbiased presentation of the underlying scientific information. Because of this problem, I voted for the provisions of H.R. 1022 which require objective and unbiased analyses and presentation of risk information.

Mr. OXLEY. The gentleman's time has expired.

Does the gentleman from Washington State have an opening statement?

Mr. WHITE. No, I don't. Thank you, Mr. Chairman.

Mr. OXLEY. And I understand the ranking member does not, so we are ready to——

Mr. TAUZIN. I came for a hearing.

Mr. OXLEY. Let me first indicate that all opening statements will be made part of the record. Without objection, so ordered.

Let me introduce our first panel. Our first witness is Mr. Edgar Benton, who is counsel for the Shell Corporation; Mr. Steve Milloy of National Environmental Policy Institute; Mr. Craig Tarpoff, Superfund Coalition Against Mismanagement; and finally Dr. Kip Viscusi, Program on Risk Analysis and Civil Liability from Duke University.

I welcome all of you to the panel, and we will begin with Mr. Benton.

STATEMENTS OF A. EDGAR BENTON, COUNSEL, ROCKY MOUNTAIN ARSENAL, ON BEHALF OF SHELL OIL CORP.; STEVEN J. MILLOY, DIRECTOR, SCIENCE POLICY STUDIES, NATIONAL ENVIRONMENTAL POLICY INSTITUTE; CRAIG A. TARPOFF, CO-CHAIRMAN, SUPERFUND COALITION AGAINST MISMANAGEMENT; AND W. KIP VISCUSI, DIRECTOR, PROGRAM ON RISK ANALYSIS AND CIVIL LIABILITY, DUKE UNIVERSITY

Mr. BENTON. Good morning, Mr. Chairman, Congressman Tauzin, and members of this subcommittee.

I am Rocky Mountain Arsenal Counsel for Shell Oil Company. I have spent more than 10 years in the process of trying to cleanup,

figure out how to cleanup Rocky Mountain Arsenal under Superfund. If we have anything that will be helpful to the committee today, and I hope it will be, it will be to try to present in brief form the experience that we have had over 10 years operating on a large, complex, Federal facility under the requirements of Superfund. We want to commend this committee and the Congress for the work that has been done on risk assessment and cost effectiveness.

As I will try to indicate in my comments, those two issues were at the heart of the problem that we had at Rocky Mountain Arsenal of attempting to figure out how to clean it up in the most effective and competent fashion. As a result of the leadership, I think, provided by the Congress and the good faith and hard work by the State of Colorado, by EPA, by the Army, other parties to the Rocky Mountain Arsenal cleanup, and the community stakeholders, we have reached, at long last, in this very arduous and contentious and expensive undertaking, a tentative conceptual agreement which outlines the fundamental elements of the final cleanup for Rocky Mountain Arsenal. That matter will be made public in Denver tomorrow, and we believe, Mr. Chairman, and members, that the leadership that this committee and this Congress have played has set a tone, very constructive and positive, within which that accord has finally been reached.

I am going to attempt in the time allotted to give you the briefest description of what Rocky Mountain Arsenal is for those of you who are not familiar with that site. Twenty-seven square miles located near Denver acquired by the Army in World War II for the manufacture of chemical weapons, later leased in part to Shell Chemical Company for the manufacture of agricultural chemicals. Significant soil contamination, particularly in the central core area of the Arsenal and groundwater contamination relating to that soil contamination.

Since 1978, approximately $250 million has been spent at the site on interim response actions trying to focus most directly upon the most significant of the contamination problems. Within a few weeks, an incineration project of 10 million gallons of industrial effluent will have been completed at a cost of $150 million.

As you may know, Mr. Chairman, and the members may know, in 1992 the Congress passed the Rocky Mountain Arsenal National Wildlife Refuge Act which will cause the site to be transferred to the jurisdiction of the U.S. Fish and Wildlife Service as a refuge when the remediation gets underway.

What has been the problem at the Arsenal, what are its principal elements, and what have we learned that may be instructive for the subcommittee in determining how Superfund might be redesigned in order to produce more effective and efficient roles for future cleanups.

I want to talk about four issues very briefly, all of which we believe were critically involved in the ongoing 10-year plus effort to try to reach some understanding of what the Arsenal cleanup ought to be.

I am going to talk about land use, the importance of making an upfront determination of what the land ought to be used for. I am going to talk about site-specific conditions, these have all been mentioned in one form or another by members this morning. Fundamental, of course, is cost/benefit analysis and competent risk assessment.

On the land use issue, unless an early determination is made based upon the best judgments that can be made from the facts that exist as to what the land is going to be used for, enormous amounts of money can be literally wasted in the conduct of the remedial program. The remedial program must be based upon and consistent with land use. Similarly site-specific conditions must be a part of the basis of the remedy.

We concur totally with the comments made by the chairman and by the members about the crucial nature of cost/benefit analysis. We believe that in the question of remedy we have suffered with the estimates which range from $2 billion on the low side up to $4 to $6, $8 billion on the high side. That is all a function of whether you are going to reliably contain the contamination or whether you are going to engage in treatments that have not been established for sites with large volumes of complicated wastes.

I am happy to report that the tentative conceptual agreement that has been reached in Denver represents a rational blending of treatment and containment, and the judgment is that it will come in quite close to the $2 billion estimate and not at the upper range where it could have been driven if these conditions had not been applied.

Mr. Chairman, on the question of assignment of Superfund authority to the States, we urge that the revised provisions of Superfund be imposed as a condition upon the transfer of that authority so that the possibility of a substantial reverse unfunded mandate could be avoided.

Thank you, Mr. Chairman, and members. We are pleased to be here to offer those comments this morning.

[The prepared statement of A. Edgar Benton follows:]

PREPARED STATEMENT OF A. EDGAR BENTON, ROCKY MOUNTAIN ARSENAL COUNSEL, SHELL OIL COMPANY

Chairman Oxley, Congressman Tauzin, Members of the Committee, my name is A. Edgar Benton. I am Rocky Mountain Arsenal Counsel for the Shell Oil Company. For the past ten years Shell Oil Company along with the Army has been actively engaged in the cleanup process at the Rocky Mountain Arsenal in Denver, which is the Defense Department's most costly Superfund site to date. Through this experience, Shell has learned a great deal about how CERCLA works in practice at a large federal facility. I very much appreciate having the opportunity to share some of those insights with the committee.

As a private party with a significant stake in federal facility remediation issues, we, at the outset, want to thank the Commerce Committee and the House for the excellent work you have accomplished in the passage of regulatory reform legislation as part of the Contract with America. H.R. 1022, drafted in the Commerce Committee, has set a constructive, positive tone which has not gone unnoticed throughout the Nation.

As a result of this leadership in significant reform, and thanks to the honest efforts and good will of the State of Colorado, the EPA, the Army, the other parties to the RMA agreement, several Members of the Colorado Congressional Delegation, as well as the community stakeholders, I am pleased to tell you that last week we were able to reach a tentative conceptual cleanup agreement which is fully protec-

tive of human health and the environment, is cost effective, and is acceptable to all parties to the negotiations.

That agreement represents a major break-through on an enormously complex, contentious, and expensive problem. Regardless of this break-through, we welcome this opportunity to share with you some our insights with respect to Superfund Reauthorization and federal facilities.

Key Principles for Superfund Reform

One issue in the Superfund Reauthorization process which Congress will be called upon to consider, is whether to prescribe separate standards for the thousands of contaminated federal sites located throughout the country. Notwithstanding the significant policy and budget implications of decisions made by Congress with respect to federal facilities, Congress does not necessarily need to prescribe special rules for Superfund cleanups at such facilities.

If properly structured, the rules for privately owned facilities should function equally well for federal facilities.

Of course, States must be required to adhere to the federal requirements, or pay the incremental cost of a "super remedy" that is more stringent than federal requirements.

Shell recommends that the key principles for a unified approach to Superfund cleanups should be as follows:

• *An Early Determination of Future Land and Water Use Should Be Made.* All site investigations, risk assessments, and remedies should be based upon and consistent with the land and water use determination. This would go a long way toward ensuring that work performed at the sites is based upon and consistent with the ultimate use of the site. Otherwise, excess time and funds could be expended on a cleanup process that is not reflective of the reality of the site.

• *Public Involvement Should be Encouraged.* Citizens of communities near federal facilities, as well as other CERCLA sites, have very real concerns about the protectiveness of cleanups. When the public is involved in the process and given reliable information to address those concerns, it has a better appreciation of cleanup strategies.

• *Risk Assessment Should be Science-based and Site Specific.* Site specific risk assessments taking into consideration the geology and hydrogeology of the site, actual exposure pathways, and reasonably anticipated land and water use should be used to develop the remedial approaches for consideration. Priority for funding should be directed at real and significant risks to human health and the environment, rather than speculative and theoretical risks.

• *Remedy Selection Should Also Incorporate Cost-Benefit Analysis.* Remedies must be cost-effective. Final decisions on remedy selection should be made by adequately comparing the costs and net human health and environmental benefits of the alternatives.

• *The Current Preference for Treatment (as Opposed to Containment) and the Requirement of Permanence Should be Eliminated.* This will assure that cleanup remedies are based on site-specific assessments of actual risks and not (as is now often the case) on controversial and costly solutions which may be more directed at theoretical rather than actual risks. Reliable containment, institutional controls, and the beneficial effects of natural attenuation may provide protectiveness and an equivalent in permanence. In addition, this approach provides an effective framework for determining the strategy to be used for the remediation of specific "hot spots."

If Congress makes these fundamental changes with respect to all facilities, then specific standards will not be needed for federal facilities. Absent such changes, federal facility cleanups will more than likely result in a significant, open-ended drain on the federal treasury with negligible or non-existent human health and environmental benefits. We believe that limited federal dollars must be spent and priorities set among States for cleanups in a manner that assures that the worst sites are cleaned up first in a cost-effective manner.

The Role of the States in Federal Facility Cleanups

States should have a key role in remedy selection at both federal and private facilities. Qualified States should be permitted to take a leading role in the remedy selection. If the reauthorized Superfund program eliminates the preference for treatment and the requirement for permanence, allows for a realistic assessment of actual risks, and requires the person selecting the remedy to demonstrate the necessity for implementing it on the basis of site-specific considerations, qualified States should be able to select remedies under paramount federal standards, as well as, and perhaps more effectively than their federal counterparts. Moreover, because federal facilities would not be entitled to special treatment or standards under this ap-

proach, there is no compelling reason to deny States a key role in selecting remedies at such facilities.

In addition, States should be permitted to select a "super remedy" for a particular site if that right is balanced by a responsibility to pay for the incremental cost of that remedy. Qualified States may on occasion wish to prescribe remedies for a particular facility—private or federal—that go beyond the remedy warranted by the paramount federal standards developed as part of the site-specific assessment.

The right of States to depart from a site-specific remedy standard is consistent with other major policy initiatives now before the Congress and is not objectionable in principle here so long as a State making such a choice is required to bear responsibility for the incremental cost of the super remedy it chooses.

Problems Associated With the Unrestricted Transfer to States of Federal Superfund Authority

Absent the fundamental changes described earlier herein, the *unrestricted* delegation to States of federal Superfund authority could lead to serious environmental and budget problems, as discussed further below.

• *Problem 1: The unrestricted transfer could create an unfunded mandate on the federal treasury.* A State could choose a less cost-effective cleanup remedy over the objection of federal agencies like DoD an DoE and send the federal government the entire cleanup bill, for which the State would have *no financial responsibility.* This could happen even where the DoD's or DoE's preferred remedy complies with applicable State and federal law. The federal government would then pick up the tab for a more costly cleanup, and the State, by contrast, would pay nothing for imposing a less cost-effective remedy. This would, in effect, create an "unfunded mandate" on the federal treasury.

Current law requires a State to pay for a more costly remedy. CERCLA provides that where a State challenges *EPA's* selected remedy and loses (i.e., EPA's remedy is supported by a finding of substantial evidence), the State can nevertheless impose a more stringent remedy *if the State pays the incremental cost of the more stringent remedy.* See CERCLA § 121(f)(3)(B)(iii). This provision, for all practical purposes, is *inoperative* if CERCLA authority is transferred to the States, because the State, rather than EPA, would select the final remedy. It is obvious that the State would not invoke § 121(f)(3)(B)(iii) to challenge its own remedy.

One way to decrease a State's incentive to choose a more expensive and less cost-effective remedy, would be to make § 121(f)(3)(B)(iii) applicable under a transfer of authority. Whatever the approach ultimately chosen, if a State wants to impose a super remedy, the State should be financially responsible for the incremental cost of that super remedy.

• *Problem 2: By substituting the State for EPA in ongoing cleanups, the State would have power to impose its own remedy and to be the final arbiter of remedy-related disputes.* This could lead to significant increased costs and time delays. Most ongoing federal facility cleanups are governed by agreements among the parties. Under a transfer of authority, a State would assume EPA's ongoing role in the cleanup process, and could impose its views by invoking the rights previously held by EPA under such agreements. Two important examples are the right to select remedies and to serve as the ultimate arbiter of remedy-related disputes.

As a result, the State could choose a less cost-effective remedy over the objections of DoD, regardless of the progress made and monies already spent to date under the ongoing process. As the final arbiter of disputes, the State would have power to resolve any dispute over a less cost-effective remedy in its own favor (and send the bill for the most costly cleanup to the federal government). In addition to increasing the cost of the cleanup through selection of a more expensive remedy, substituting a State for EPA at this stage of a cleanup could result in significant time delays.

In the absence of the fundamental changes to CERCLA discussed earlier, this problem could be addressed by utilizing any of the following approaches: 1) a grandfather provision covering existing agreements; 2) a restricted delegation to States whereby the federal government retains authority over remedy selection and dispute resolution, or 3) de novo judicial review of a State's selected remedy. These options would help to protect the integrity of existing processes and promote the timely completion of ongoing cleanups, while still allowing States to play a major role in ongoing cleanups.

• *Problem 3: Federal cleanup priorities would be determined based on which State was most aggressive in seeking federal Superfund authority and implementing costly remedies, as opposed to evaluating which cleanups made environmental and fiscal sense on a national basis.* This could result in the re-ordering of federal cleanup and budget priorities. One or two States that select excessively expensive cleanups could

in effect lock out monies for other cleanups nationwide. Federal taxpayers would end up paying for cleanups in those few aggressive States, with absolutely no federal check on the cost-effectiveness of the remedies selected by those States. The federal government should retain control over how spending priorities are set among federal facility cleanups.

The federal budget cannot withstand open-ended spending on federal facility cleanups, in particular, *without regard to environmental cleanup priorities.*

Barring the fundamental changes to CERCLA implemented by paramount federal standards advocated earlier in this testimony, keeping remedy selection at the federal level, or allowing de novo review of State-selected remedies to ensure that the most cost-effective remedy is chosen, would help alleviate this problem.

Fiscal and environmental responsibility require that the federal government retain authority over its spending priorities, and not let them be dictated by the remedy selection decisions of one or a few States. Fiscal and environmental responsibility call for federal standards, or in the alternative, federal control and/or adequate judicial review of the remedy selection process.

Conclusion

In conclusion, certain fundamental changes to Superfund may make unnecessary special provisions for federal facilities. These facilities can be treated like all others if the following key principles are adopted:

- Early determination of future land and water use should be made so that site investigations, risk assessments, and remedy selection can be based upon and consistent with such determinations.
- Public involvement should be encouraged.
- Risk assessments should be science-based and site specific, taking into consideration geological and hydrogeological site conditions, actual exposure pathways and reasonably anticipated land and water use.
- Remedy selection should incorporate cost-benefit analysis, so that final decisions on remedy selection are made by adequately comparing the costs and net human health and environmental benefits of the alternatives.
- The current preference for treatment (as opposed to containment) and the requirement of permanence should be eliminated in order to assure that cleanup remedies are based on site-specific assessments of actual risks and not (as is now often the case) on controversial and costly solutions which may be more directed at theoretical rather than actual risks.

States should be given a key role in the remedy selection process. And, States should be allowed to select a "super remedy" for a particular site if that right is balanced by a responsibility to pay for the incremental cost of the remedy.

If Congress chooses not to adopt the key principles outlined above, then specific restrictions as to federal facilities will be needed.

Whatever the technique ultimately chosen, Congress should act to assure that transfers of authority for cleanup activities at major federal facilities are consistent with the principles behind other Congressional initiatives and do not jeopardize cleanups at other federal facilities or other national priorities.

Mr. OXLEY. Thank you, Mr. Benton.

Our next panelist is Mr. Steve Milloy.

STATEMENT OF STEVEN J. MILLOY

Mr. MILLOY. Good morning. I am Steven Milloy, Director of Science Policy Studies at the National Environmental Policy Institute, a non-profit public policy organization chaired by former Congressman Don Ritter.

I would like to thank Chairman Oxley, Mr. Tauzin, and the other members of the subcommittee for the opportunity to share my views on Superfund with the subcommittee.

I have three major points that I would like the subcommittee to consider. Number one, Superfund cleanup costs can be reduced on the order of 60 percent, and speedier cleanup of more sites can be achieved through science-based risk assessment.

Number two, Superfund site cleanups should be prioritized on the basis of current and future risk.

Number three, the current Superfund remedy selection process should be replaced by the risk-based corrective action process developed by the American Society for Testing and Materials.

Incorporation of these concepts into the remedy selection process will significantly enhance protection of the public health and environment from hazardous waste sites. Congress has the opportunity to transform Superfund into an effective and affordable program. However, remedy selection reform is only a partial solution. Other reforms, including the repeal of retroactive strict joint and several liability will need to be implemented.

My first point is that Superfund cleanup costs can be reduced on the order of 60 percent, along with speedier cleanup of more sites. I am leading a project at the Institute that is examining the potential impacts of science-based risk assessment on Superfund cleanups. This projects is part of a larger effort by the Institute to provide answers to questions of, how clean is clean enough, and for what purpose.

Our research indicates that science-based risk assessment could reduce cleanup costs on the order of 60 percent. Another perspective on this estimate is that the failure to use science-based risk assessment may unnecessarily increase the costs of cleanups by more than 150 percent. These extra costs bring no extra benefits to the public or environment.

This estimate is based on an analysis of all the Superfund records of decision issued by EPA from 1991 through 1994, and the likelihood, as acknowledged by EPA, that Superfund site risks are routinely and substantially overestimated.

I conservatively estimate that risks are overestimated by a factor of 100 for my analysis. The systematic overestimation of risk has likely led to the selection of unnecessary, time-consuming and expensive remedies.

Although EPA does currently use risk assessment to evaluate Superfund sites, the EPA risk assessment process relies upon nonscientific, unrealistic to impossible default assumptions.

In a nutshell, it is a process based in biased policy, not unbiased analytic science. Instead of developing or relying upon realistic or best estimates of risk, the current Superfund process develops and relies upon unrealistic, exaggerated risk estimates. There is an actual Superfund site where their site risk assessment assumes that an individual will live for 500 years.

If you would like more information on precisely what policy-based risk assessment is, I recommend that you read the book Choices In Risk Assessment. Choices In Risk Assessment was published in 1994 by the Regulatory Impact Analysis Project and was sponsored by the U.S. Department of Energy.

Policy-based risk assessment must be replaced with science-based risk assessment if Superfund is to be made workable. Science-based risk assessment includes the use of, number one, validly collected and representative site-specific data. This allows individual site characteristics to be considered in cleanup decisions.

Number two, up-to-date information on chemical toxicity. This permits the incorporation of the latest understanding of toxicity in cleanup decisions.

Number three, fate and transport analysis. This facilitates understanding of whether and how chemicals migrate from a point of release to a potentially exposed population.

Number four, realistic exposure scenarios. Clearly, no one lives for 500 years. Also, only realistic and reasonably foreseeable future land uses should be considered.

Number five, probabilistic analytical methodologies. These methodologies, including Monte Carlo analysis, permit quantitative analysis of error in risk calculations.

Additionally, conservatism in risk assessments resulting from any unavoidable use of assumptions or compounding of assumptions should be factored into the remedy selection process. The House has already recognized the importance of science-based risk assessment as well as the matching of incremental costs with incremental benefits in the form of H.R. 1022. Exceptions to the general components and principles of science-based risk assessment and cost/benefit analysis should be minimized.

Compounding the problem created by policy based risk assessment is the use of applicable, relevant and appropriate requirements, also known as ARAR's, ARAR's are arbitrary, nonrisk-based, nonsite-specific standards. Consider the case where a risk assessment indicates that a site poses no threat to the public health or environment. As a matter of common sense, such a site would not require remediation. However, cleanup will still be required if site contaminant levels are not in compliance with ARAR's. ARAR's operate as a device to circumvent risk assessment results.

My second point is, Superfund cleanups should be prioritized on the basis of land use. Our analysis of Superfund sites indicates that over 70 percent of remedial actions are conducted exclusively for future hypothetical risks. This process is taken to an extreme in the case of Department of Energy sites that are evaluated based on a timeframe of 1,000 years into the future.

Logic dictates that sites with current risks should be addressed before sites with future risks, particularly where future risks rely on assumptions of future land use.

Importantly, consideration of land use should include consideration of groundwater use. There is no scientific or logical basis for differentiating groundwater use from land use.

My last point, Superfund remedy selection should be based on the risk-based corrective action process developed by the American Society for Testing and Materials. The best way to incorporate science-based risk assessment in Superfund is to require something called Risk-Based Corrective Action or RBCA. RBCA is a multi-tiered flexible approach that permits site cleanups to be managed on the basis of common sense, sound science and, if necessary, science-based risk assessment. RBCA was developed by the American Society for Testing and Materials, an independent organization which has been issuing standards for science and engineering since 1898.

ASTM originally developed RBCA for use in the remediation of sites with leaking underground storage tanks, although some Superfund sites can be more complex than leaking underground

storage tanks, even EPA has acknowledged that the principles of RBCA are readily transportable to the Superfund Program.

In conclusion, making Superfund a workable program will take reforms in addition to remedy selection, particularly with respect to the liability issue I mentioned earlier. These other reforms, however, are beyond the scope of my statement. Speedier cleanup of more sites, greater and more certain protection of the public health at reduced costs can be attained if the principles of RBCA are incorporated into the Superfund remedy selection process.

Thank you very much for the opportunity to share my thoughts with you, and we at the Institute offer our assistance to the subcommittee as it addresses the complex and important issue of Superfund. Our interim report has been made available to the subcommittee. We will forward a copy of our final report to the subcommittee as soon as it is ready. Thank you.

[The prepared statement of Steven J. Milloy follows:]

PREPARED STATEMENT OF STEVEN J. MILLOY, DIRECTOR, SCIENCE POLICY STUDIES, NATIONAL ENVIRONMENTAL POLICY INSTITUTE

Good morning. I am Steven Milloy, Director of Science Policy Studies at the National Environmental Policy Institute, a nonprofit public policy organization chaired by former Congressman Don Ritter. I would like to thank Chairman Oxley for the opportunity to share my views on Superfund with the Subcommittee.

Overview of Major Points

I have three major points that I would like the Subcommittee to consider:

1. Superfund cleanup costs can be reduced on the order of 60 percent and *speedier* cleanup of *more* sites can be achieved through science-based risk assessment.
2. Superfund site cleanups should be prioritized on the basis of current and future risk.
3. The current Superfund remedy selection process should be replaced by the risk-based corrective action process developed by the American Society for Testing and Materials (ASTM).

Incorporation of these concepts into the remedy selection process will significantly enhance protection of the public health and environment from hazardous waste sites.

Congress has the opportunity to transform Superfund into an effective and affordable program. However, remedy selection reform is only a partial solution. Other reforms, including cleanup financing, will need to be implemented.

Superfund cleanup costs can be reduced on the order of 60 percent and speedier cleanup of more sites can be achieved through science-based risk assessment.

I am leading a project at NEPI that is examining the potential impacts of science-based risk assessment on Superfund cleanups. This project is part of a larger effort by the Institute to provide answers to questions of how clean is clean enough (and for what purpose)?

Our research indicates that science-based risk assessment could reduce cleanup costs on the order of 60 percent. Another perspective on this estimate is that the failure to use science-based risk assessment may unnecessarily increase the costs of cleanups by more than 150 percent. These extra costs bring no extra benefits to the public or environment.

This estimate is based on an analysis of all the Superfund Records of Decision (RODS) issued by EPA from 1991 through 1994 *and* the likelihood, acknowledged by EPA, that Superfund site risks are routinely and substantially overestimated. The systematic overestimation of risk has likely led to the selection of unnecessary, time-consuming and expensive remedies.

Although EPA *does* currently use risk assessment to evaluate Superfund sites, the EPA risk assessment process relies upon non-scientific, unrealistic-to-impossible default assumptions. In a nutshell, it is a process based in biased policy, not unbiased analytic science. Instead of developing and relying upon realistic or best estimates of risk, the current Superfund fund process develops and relies upon unrealistic, exaggerated risk estimates. There is an actual Superfund site where the site risk assessment assumes that an individual will live for 500 years!

If you would like more information on precisely what policy-based risk assessment is, I recommend that you read the book *Choices in Risk Assessment: The Role of Science Policy in the Environmental Risk Management Process. Choices in Risk Assessment* was published in October 1994 by the Regulatory Impact Analysis Project and was sponsored by the U.S. Department of Energy.

Policy-based risk assessment must be replaced with science-based risk assessment if Superfund is to be made workable. Science-based risk assessment includes the use of:

1. *Validly-collected and representative site-specific data.* This allows individual site characteristics to be considered in cleanup decisions.
2. *Up-to-date information on chemical toxicity.* This permits the incorporation of the latest understanding of toxicity in cleanup decisions.
3. *Fate and transport analysis.* This facilitates understanding of whether and how chemicals migrate from a point of release to a potentially exposed population.
4. *Realistic exposure scenarios.* Clearly, no one lives for 500 years. Also, only realistic and reasonably foreseeable future land uses should be considered.
5. *Probabilistic analytical methodologies.* These methodologies, including Monte Carlo analysis, permit quantitative analysis of error in risk calculations.

Additionally, conservatism in risk estimates resulting from any unavoidable use of assumptions or compounding of assumptions should be factored into the remedy selection process. The House of Representatives has already recognized the importance of science-based risk assessment as well as the matching of incremental costs with incremental benefits in form of H.R. 1022. Exceptions to the general components and principles of science-based risk assessment and cost-benefit analysis should be minimized.

Compounding the problem created by policy-based risk assessment is the use of *applicable, relevant and appropriate requirements* (ARARs). ARARs are arbitrary, non-risked-based, non-site-specific standards. Consider the case where a risk assessment indicates that a site poses no threat to public health or the environment. As a matter of common sense, such a site would not require remediation. However, cleanup will still be required if site contaminant levels are not in compliance with ARARs. ARARs operate as a device to circumvent risk assessment results.

Superfund cleanups should be prioritized on the basis of land use.

Our analysis of Superfund sites indicates that over 70 percent of remedial actions are conducted exclusively for future, hypothetical risks. This process is taken to an extreme in the case of Department of Energy sites that are evaluated based on a timeframe of 1,000 years into the future. Logic dictates that sites with current risks should be addressed before sites with future risks, particularly where future risks rely on assumptions of future land use. Importantly, consideration of land use should include consideration of groundwater use. There is no scientific or logical basis for differentiating groundwater use from land use.

Superfund remedy selection should be based on the risk-based corrective action process developed by the American Society for Testing and Materials (ASTM).

The best way to incorporate science-based risk assessment in Superfund is to require something called "Risk-Based Corrective Action" (RBCA, pronounced "Rebecca"). RBCA is a multi-tiered, flexible approach that permits site cleanups to be managed on the basis of common sense, sound science and, if necessary, science-based risk assessment. RBCA was developed by the American Society for Testing and Materials (ASTM), an independent organization which has been issuing standards for science and engineering since 1898.

ASTM originally developed RBCA for use in the remediation of sites with leaking underground storage tanks (LUSTs). Although some Superfund sites can be more complex than LUSTs, even EPA has acknowledged that the principles of RBCA are readily transportable to the Superfund program.

Conclusion

In conclusion, making Superfund a workable program will take reforms in addition to remedy selection, particularly with respect to the Superfund financing mechanism. These other reforms, however, are beyond the scope of my statement. *Speedier* cleanup of *more* sites, greater and more certain protection of the public health and reduced costs can be attained if the principles of RBCA are incorporated into the Superfund remedy selection process.

Thank you very much for this opportunity to share my thoughts with you and we at the Institute offer our assistance to the Subcommittee as it addresses the complex and important issue of Superfund. Our interim report has been made available to the Subcommittee. We will forward a copy of our final report to the Subcommittee as soon as it is ready.

I would be pleased to answer any questions that you may have.

Mr. OXLEY. Thank you, Mr. Milloy.

Our next witness is Mr. Craig Tarpoff, Superfund Coalition Against Mismanagement.

Mr. Tarpoff.

STATEMENT OF CRAIG A. TARPOFF

Mr. TARPOFF. Mr. Chairman, members of the committee, thank you for this opportunity to address the Superfund law and how it is hurting the environmental and economic health of dozens of communities like mine.

I am here today as both an Alderman for the City of Granite City, and as Co-Chairman of the Superfund Coalition Against Mismanagement. Our coalition includes several hundred members from more than 30 Superfund communities in about a dozen different States. The problems we are having with USEPA provide a perfect case study as to what is wrong with Superfund.

My testimony covers three areas. First, how EPA invented a remedy selection process that is wasting hundreds of millions of dollars while being insulated from public review and comment. Second, I will list a few examples of how EPA is hurting people and the environment. Last, I will suggest some ideas for reform.

When EPA finds residential soils in concentrations of 400 parts per million, they can then use the IEUBK computer model to predict theoretical health risks and remedies. Ironically, this 400 parts per million threshold is below the average lead in soil levels commonly found in innercities or near roadways. In fact, if the policy were implemented consistently, most innercities would be declared Superfund sites. This policy is erroneous. Soil removals do practically nothing to reduce lead related health risks unless soil lead levels are at extremely high concentrations, well above those specified in EPA policies.

EPA's own $15 million Three-Cities Study indicates that soil removals are not effective. This is probably why EPA has sat on this report. EPA continues to fail to recognize that soil recontamination occurs without a multimedia exposure remediation program. Unless we change EPA's lead-in-soil policies, many communities will experience problems such as these.

In Midvale, Ben Frei attempted to obtain a home equity loan to expand the size of his home for his growing family. Banks declined to lend money to Ben because his home was within a Superfund site.

In Granite City, Illinois, while preoccupied with dirt, EPA for a decade has ignored the risk posed by a lead waste pile adjacent to downtown which sits just 15 feet above a groundwater aquifer one mile from the Mississippi River.

In Leadville, Colorado, EPA's Superfund has forced the expenditure of over $50 million, only $13 million of which has gone towards real remediation policies. Rather than accept results of blood-lead studies, EPA began its pig study. The only unquestionable conclusions after 3 years of research is that pigs enjoy eating cookie dough.

In using its IEUBK computer model, EPA has never accurately predicted blood-lead levels employing real site-specific data.

Superfund provides for a self-funding bureaucracy at the regional level, practically immune from budgetary oversight.

Most importantly, if EPA is allowed to continue to create policy by circumventing the rulemaking process, many reforms which Congress may adopt will be circumvented by EPA's ability to issue directives and guidance.

For these reasons, we urge you to consider the following kinds of policy reform. Order the EPA to rescind the lead-in-soils guidance until the Agency undertakes a formal rulemaking process for its lead-in-soil policies.

Require EPA to develop environmental policies which truly promote a lead-safe environment rather than the impossible lead-free environment which EPA seems to prefer.

Require EPA to conduct cost/benefits tests on any guidance or directive which threatens to cost more than $5 million.

Consider the creation of a provision for elective delisting. Under this concept, if the EPA fails to complete a cleanup or agree to a cleanup plan within 10 years of listing, any State or local government affected by the site's listing could call upon another Federal agency to review the current condition of the site, or an alternative cleanup plan advocated by the local government entity.

I want to make certain to you that you understand that the number one concern of myself and the Coalition is the health of the citizens of our respective communities. Portions of my testimony have identified examples of environmental and economic harm.

We can only consider these examples real harm if the actions which caused these problems are unjustified and unnecessary. I assure you, if the scientific evidence supported EPA's Superfund lead policies, I would not be here today.

Again, thank you very much for this opportunity. I will attempt to answer any questions you may have.

[The prepared statement of Craig A. Tarpoff follows:]

PREPARED STATEMENT OF CRAIG A. TARPOFF, CO-CHAIRMAN, SUPERFUND COALITION AGAINST MISMANAGEMENT

Mr. Chairman and members of the committee, my name is Craig A. Tarpoff. I wish to thank you for this opportunity to address the Superfund Law and how it is hurting the environmental and economic health of dozens of communities like mine. I am here before you today as a representative of both the City of Granite City, Illinois, in my capacity as City Alderman, and as Co-Chairman of the Superfund Coalition Against Mismanagement.

My town of Granite City has the dubious distinction of being a Superfund community. It is a member of the Superfund Coalition Against Mismanagement, a national coalition of Superfund communities like Granite City which are trying to rid themselves of the Superfund burden. I am also a member of the Society for Environmental Geochemistry and Health and a past participant in discussion groups regarding the Department of Housing and Urban Development's lead-remediation policies. I was also present at Research Triangle Park for EPA's release and discussion of their $15 million "Three-Cities Study."

The Superfund Coalition Against Mismanagement banded together in the Fall of 1992 in Aspen, Colorado when the U.S. Environmental Protection Agency hosted its infamous "Panel of Experts" forum to debate the efficacy of EPA's Superfund cleanup programs in Aspen. At the urging of Mayor Zaitz from Leadville, Colorado, representatives from about two dozen communities like mine came together in Aspen—at their own expense—to discuss the creation of a small coalition of communities concerned about solving their Superfund problems. As we shared our experiences, it became clear that we were all victims of tremendous mismanagement problems plaguing the EPA. We incorporated the non-profit coalition in Colorado and Penn-

sylvania, with the express intent of affecting reform of Superfund and the EPA's soil/lead policies which have been hurting all our communities.

Today, our coalition includes several hundred members from more than 30 Superfund communities in about a dozen different states, along with EPA contract scientists, elected officials and non-voting industry representatives. We receive funding through individual dues and in-kind contributions. The executive committee of the coalition, which governs its activities, includes elected public representatives from communities in Colorado, Illinois, Pennsylvania and Utah.

SUPERFUND OFTEN HARMS LOCAL COMMUNITIES AND THE ENVIRONMENT

We have found that the remedies which EPA selects—and the faulty methodologies they use to select the remedies—often harms the community which EPA is supposed to protect. Our coalition's experiences revolve around how EPA has invented and misused its so-called lead-in-soils policies under the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) and the Resource Conservation and Recovery Act (RCRA). The way EPA's Superfund managers have misused this policy and hurt local communities' environmental quality and economic well-being provides a useful case study on what's wrong with Superfund.

The EPA's lead-in-soils policy, which sets "screening levels" (trigger levels) for allowable lead levels in residential soils is allowing EPA to create Superfund sites in communities where levels of lead in soils reach 400 parts-per-million (ppm) or more. EPA orders expensive and intrusive soil removals on the *theory* that soil removals reduce the risk of lead poisoning. When EPA finds soils lead levels at 400 ppm or more, it then uses its infamous Integrated Uptake Biokinetic (IUBK) computer model to predict lead health risks based on lead/soil concentrations. Ironically, this 400 ppm threshold is below the average concentrations of lead-in-soil levels typically found in inner cities or near roadways. (For instance, EPA has found that soils around interstate highways have lead levels averaging 1100 ppm—most likely the result of the historic use of leaded gasoline in automobiles.)

This cleanup policy is erroneous for one main reason: *Soil removals do practically nothing to reduce lead related health risks.* For example, EPA's own $15 million "Three-Cities Study" has proven that soil removals are not effective—which is probably why EPA refuses to issue a final report on the Three-Cities Study. During the many years which I have been working on this issue, I have found that almost every independent research scientist involved in lead toxicology agrees that soil removals are ineffective at reducing blood lead levels for soil lead concentrations below 2,000-4,000 ppm. Even the nationally recognized Alliance to End Childhood Lead Poisoning has gone on record questioning the effectiveness of lead-in-soil cleanups. This is because lead-related health risks are consistently associated with lead-based paint and old lead plumbing, not dirt.

What we have seen in community after community is the following pattern:

Stage 1—EPA proposes a community for Superfund based on some potential risk.

Stage 2—EPA begins work on problems which they claim present some risk.

Stage 3—EPA begins looking for new problems and "risks" to address, and starts looking for signs of lead contamination.

Stage 4—After EPA inevitably finds signs of lead "contamination," the agency tells the community that because of "elevated" lead levels in soils, their computer models predict that some segment of the community's population is theoretically suffering lead risks.

Stage 5—EPA begins a public relations campaign to convince residents that severe lead poisoning risks are posed to children because of the soil-lead concentrations.

Stage 6—EPA enters low-income communities with "elevated" lead-in-soil levels and begins promising homeowners new yards, new gardens, new carpets and even new home structures. EPA attempts to create the political demand for its soil removal programs. The result is that communities are needlessly redlined and money is wasted on ill-advised dirt cleanups.

Stage 7—EPA project managers become fixated on dirt removals, while often ignoring more important environmental problems. Companies held liable for cleanups balk at spending $40,000 to $100,000 per home for cleanup work which does no good. Important environmental priorities are ignored and the pace of cleanup is perpetually stalled.

What is most disconcerting is that the Superfund cleanup policies are often based on questionable science, statistical manipulation, and cleanup prescriptions which do not improve environmental quality.

The misuse of the lead-in-soils policy has caused "environmental redlining," whereby properties in and around a Superfund site are "redlined." Homeowners

often can't sell or refinance their properties, because of the extremely controversial "theoretical, potential health threats" which EPA Superfund managers claim exist in a community. Moreover, we have seen that EPA's preoccupation with dirt cleanups divert scarce cleanup dollars away from truly important environmental priorities. Our communities suffer, as does environmental quality.

Let me highlight some of the horror stories which our coalition members have witnessed under EPA's Superfund program and their implementation of the soil/lead policy:

- Ben Frei, a member of our coalition from Midvale, Utah and a father of a sizeable family, attempted to obtain a home equity loan to expand the size of his home for his growing family. Banks declined to lend money to Ben because his home was within a Superfund site. Even though Midvale residents have blood lead levels around the national average, they can't renovate their homes because of a "theoretical, potential health threat" (from lead levels in dirt) which, in fact, is no threat at all.
- Also in Midvale, Utah, Superfund managers have induced the public into accepting ill-advised soil removals by offering to replace about a dozen garages. (Interestingly, Midvale residents using gardens with "contaminated" soils have lower blood-lead levels than the average population.)
- In Granite City, Illinois U.S. EPA has been preoccupied with dirt removals, even though Granite City residents have blood-lead levels equivalent to those found *outside* of the Superfund site. While preoccupied with dirt, EPA for a decade has ignored the risk posed by a lead/slag pile adjacent to downtown which sits just 15 feet above an aquifer connected to the Mississippi River.
- Also in Granite City, EPA used their "IUBK" computer model to justify soil-lead removals. We found that EPA's model assumed that NO lead sources came from paint, or "painted surfaces in good condition." (The overwhelming majority of Granite City homes within the Superfund site test positive for lead-based paint.) If the model had allowed for leaded paint sources, the model would have dictated that even more dirt would have to be removed in order to protect against leaded paint poisoning! We have found that EPA consistently manipulates their data with computer models in order to exercise their own agendas—which seem to have little to do with improving environmental quality.
- Also in Granite City, EPA attempted to force residents to remediate exterior leaded paint so that soils would not be recontaminated.
- In Park City, Utah, a residential/commercial area was declared a Superfund site based on lead-in-soil concentrations found in this historic mining town. The city floated bonds to pay for its own cleanup program—which EPA refused to approve. Even after the Agency for Toxic Substances and Disease Registry determined that the city's cleanup was effective, EPA refused to de-list the site and Congress decided to legislatively de-list the community in 1986.
- In Palmerton, Pennsylvania, EPA's Superfund program performed soil/lead remediations on 11 homes during the summer of 1994. None of the homes had residents with elevated blood-lead levels, at least one home had soil-lead concentration well below the 400 ppm trigger level. In September 1994, in response the Palmerton community's questions about EPA actions to remediate homes which did not meet the agency's own criteria, EPA's regional administrator there stated, "it could be that a homeowner (in Palmerton) is lying to us and no children visit that house and they're getting a free couch." Here again, EPA is remediating homes that don't need to be remediated, and uses sofa and carpet giveaways to garner support for EPA's programs.
- In Leadville, Colorado, EPA's Superfund has forced the expenditure of over $50 million, and only $13 million of this sum has gone toward real remedation projects. Also, in the Summer of 1994 EPA administered a project to divert stormwater, and spent more than $1,000 per hay bale to do so.
- In Aspen, Colorado, EPA attempted to force wholesale dirt removals even though an internationally renowned panel of scientists—selected by EPA—concluded that there is no justification to implement such remedies.
- In Triumph, Idaho, EPA proposed this small community for the Superfund list and ranked it as the most hazardous site in history, based on entirely erroneous data. EPA argued that "elevated" soil/lead levels posed an unacceptable risk, even though residents have blood-lead levels below the national average. As resident Donna Rose has stated, the greatest health risk in Triumph has been the human stress created by EPA.
- In order to justify its Soil-Lead remedy selection policies, EPA has begun a series of "Pig Study" research programs to ascertain the toxicity of soil-lead levels to humans. The only unquestionable conclusion after three years of "Pig Study" research is that pigs enjoy eating cookie dough.

- In using its IUBK computer model to select soil remediation remedies, *EPA's* computer model *has never accurately predicted blood-lead levels* (based on soil lead concentrations). Yet, this is the main tool they use for multi-million-dollar remedy selections at sites accused of having "elevated" soil-lead concentrations.
- EPA refuses to release its final reports from their $15 million "Three-Cities Study", which was conducted to prove the *hypothesis* that soil removals reduce lead-related health risks. The reason EPA refuses to release the details of this study is that it proves that soil removals don't produce real benefit to anyone other than EPA contractors.
- Interestingly, those EPA managers responsible for preparing the "Three-Cities Study" are the same people responsible for inventing EPA's dependence on the IUBK computer model.
- In February of this year, EPA proposed a residential area in Bossier City, Louisiana for Superfund status, even though a $4 million health risk assessment—reviewed and endorsed by the local governments there—reveals that there are no immediate health risks posed at the site. Here again, EPA is using commonly occurring "elevated" soil-lead levels to help justify the existence of Superfund. The Bossier City Council recently responded to the EPA threat by unanimously passing a resolution calling for a voluntary City-Directed cleanup in lieu of Superfund listing.

It should also be noted that the EPA issued this highly controversial lead-in-soil Superfund policy without undergoing public review or comment. The agency circumvented a formal rulemaking process on this costly policy by issuing it as a "mere directive," arguing that the policy is "just guidance." Despite these pronouncements, in 1994 EPA proposed soil remediation work for the City of Beckemeyer, Illinois because "results detected lead levels greater than 500 part per million (ppm), a level that exceeds federal standards."

It is a travesty that EPA is allowed to promulgate such destructive Superfund policies while being immune from public comment and scientific review. This is an example of how EPA makes up policies behind closed doors which hurt people and the environment.

ALMOST ANY COMMUNITY CAN BE THREATENED BY SUPERFUND

Because lead is such a pervasive element—historically used in everything from paint, to plumbing solder to gasoline—lead levels in American soils commonly exceed EPA's threshold standard of 400 parts-per-million. Inner city soils across the country are consistently laced with lead levels above this threshold. Based on EPA's "trigger level" of 400 ppm, practically anyplace can become a Superfund site—even some EPA office sites.

It makes little environmental sense to allow EPA to create such policies which allow them to create unjustified Superfund sites practically anywhere, especially since such cleanup policies will result in little or no benefit to anyone except the Superfund managers looking for job security. *Unless we change EPA's Lead-in-Soils and Superfund policies, many, many more communities will be needlessly hurt.*

WHY SUPERFUND HARMS PEOPLE

The problem with Superfund is fundamental: It vests practically unlimited powers in the hands of a single government entity without providing any real checks and balances or oversight of that government entity. Moreover, it is essential for those in Washington to understand that Superfund is an animal of EPA's regional offices—it provides for a *self-funding bureaucracy at the regional level, practically immune from budgetary oversight.* Superfund allows young EPA bureaucrats around the country to create million-dollar research fiefdoms simply by finding some "theoretical, potential health threat" and taking actions against any property owners or industries associated with the potential threat. Add to this the fact that EPA can make up its own rules as it goes along without answering to the public, the scientific community or Congress, and you have a remedy selection system programmed for failure.

COALITION WORK ON SUPERFUND REFORM

For the past two years the Superfund Coalition Against Mismanagement has been involved in several policy reform activities: Participated in discussion groups for the proposed Title X soil-lead remediation policies promulgated by the Housing and Urban Development agency. Formally requested the opportunity to comment on EPA's interim soil-lead guidance policies. Formally requested the opportunity to comment on EPA's proposed (new) soil-lead guidance. Provided comments on EPA's

proposed Soil Screening Guidance for toxic contaminants. Assisted coalition members in seeking new state deferrals of Superfund sites. Delivered a national petition to Administrator Browner from over 40 communities and 12 states asking EPA to subject its proposed soil-lead policy to public review and comment. (EPA refused.) Assisted coalition members in bringing legal actions against EPA. Brought suit against the EPA and challenged its final soil-lead policy issued in July 1994. The coalition asked the U.S. District Court of Appeals to order EPA to undertake a formal rulemaking process for its soil-lead policies. The Court recently found that the coalition's suit was not yet ripe for review, and left open the opportunity to lodge legal challenges in the future. Called on Congress to rescind EPA's lead-in-soil policies.

SUPERFUND REFORMS NEEDED

At this point, Mr. Chairman, whatever Congress does on the "big picture" Superfund issues like joint and several liability or retroactive liability, such policy reforms probably won't help our coalition members because we are already under the Superfund cloud. Nor will the prospective reforms help communities already on the Superfund list. Most importantly, if EPA is allowed to continue to create policy by circumventing the rulemaking process, many reforms which Congress may adopt will be circumvented by EPA's ability to issue "directives" and "guidance."

For these reasons, we urge you to consider the following kinds of policy reforms:

Rescind the EPA's Lead-in-Soils Policy

Order the EPA to rescind the Lead-in-Soils Guidance until the agency undertakes a formal rulemaking process for its Lead-in-Soils policy. This guidance must be subject to scientific peer review and public comment.

Order the EPA to halt all lead-in-soil remediation activities, unless such cleanup work is formally approved by the local governments in which the Superfund site(s) exist.

Require Lead-Safe Policy

Require EPA to promulgate environmental policies which truly promote a "lead safe" environment, rather than the impossible "lead free" environment which EPA seems to prefer.

Require Cost-Benefit Tests on "Guidance"

Require EPA to conduct cost-benefit tests on any "guidance" or "directive" which threatens to cost more than $5 million.

Require EPA to Enforce Lead-in-Soil Remedies on Itself

If EPA truly believes that soil removal remedies reduce risk, then the agency should be required to enforce its own policies on itself. Therefore, we suggest that all EPA facilities, and federal facilities be screened for soil lead levels. Remediation projects should be undertaken at EPA facilities which are consistent with those projects EPA is suggesting for Granite City, Beckemeyer, Palmerton, Leadville and all other sites. We caution the committee, however, in that such an effort would also waste hundreds of millions of dollars without resulting in any benefit.

Elective De-Listing

Consider creating a provision for elective de-listing under Superfund. Under this concept, if the EPA fails to complete a cleanup or agree to a cleanup plan within 10 years of listing, any state or local government affected by the site's listing could unilaterally call on another federal agency to review either the current condition of the site or review an alternative cleanup plan advocated by the local government entity. If the federal agency determined either that the current condition of the site posed no substantial health risk, or determined that the alternative cleanup plan would effectively reduce real health risks at the site, then EPA would be required to either de-list the site or agree to adopt the cleanup plan and de-list the site within a specific time period. For Superfund sites which are not fund-directed, alternative cleanup plans advanced under such an elective de-listing provision must be jointly agreed to by the local government entities and the potentially responsible parties involved at the site.

With this alternative, local communities would have the authority and incentive to work with potentially responsible parties to quickly find solutions to environmental problems. This authority would be "elective," in that it can be exercised voluntarily by local communities. Such an approach also allows communities to more directly affect the issues of remedy selection, allowable risk, etc.

Mr. Chairman and members of the committee, I thank you for this opportunity to describe our coalition's problems with Superfund. We trust we can work with you to try and fix this program before it hurts us more.

I would be happy to address any questions from the committee.

Mr. OXLEY. Thank you, Mr. Tarpoff.

The final witness, Dr. Kip Viscusi from the Duke Blue Devils.

STATEMENT OF W. KIP VISCUSI

Mr. VISCUSI. Thank you, Mr. Chairman. This was not a good year for the Duke Blue Devils.

I am happy to be here today to discuss my research on Superfund risks on the George G. Allen Professor Economics at Duke University. The testimony I will be summarizing today is based on joint research that Professor James Hamilton and I are undertaking under an EPA cooperative agreement. Additional data appear in my written testimony.

The views expressed today represent our own views, not those of EPA. We, nevertheless, hope that our work will serve as a pilot study for future EPA Superfund policy analyses. Our study is, by far, the most extensive analysis of the risks associated with Superfund sites. Our primary database is a sample of 150 sites for which ROD's were signed in 1991 and 1992.

Let me turn now to the policy principles that we have developed. Many of these themes echo those of H.R. 1022 with respect to the importance of sound policy analysis for government regulations.

The first policy principle is that EPA should incorporate site-specific benefit/cost tests into its policy decisions. Consider the performance of the Superfund Program with respect to reducing cancer. We have recognized that this is an incomplete measure in that it excludes noncancer health effects, ecological damages and losses to society such as non-use values associated with environmental contamination.

Your average cost per case of cancer prevented is $2.9 million. Even after adjusting for the lag time involved, and after using mean risk assessments rather than conservative risk assessments, the average cost per case of cancer avoided is under $8 million. This number compares quite favorably with other Federal risk programs.

However, most of the cost effectiveness is concentrated at a few sites. Of the 751 expected cases of cancer associated with the 150 Superfund sites in our sample, 652 of these cases are attributable to a single site, the Westinghouse Electric site in California.

The distribution of the cost per cases of cancer prevented spans a considerable range. For 17 sites in our sample, the cost per cancer case was under $10 million. For 27 sites in our sample, the cost was $10 million to $100 million. For 98 sites in our sample, the cost was in excess of $100 million.

The substantial heterogeneity in the efficacy of Superfund site cleanup suggests that benefit/cost analysis should be site-specific not program-wide. The policy option selected should vary much more than it has across Superfund sites.

Unfortunately, existing legislation indicates a preference for treatment over other policy options, such as institutional controls or containment.

As part of the benefit/cost test, we also advocate a second principle for policy which is that risks should be valued at their mean value or expected level, not based solely on conservative scenarios. Contrary to conventional wisdom, the estimate individual cancer risks in the Superfund Program are considerable. At more than 80 percent of the sites, individual cancer risks are greater than 1 in 10,000.

Shifting to mean risk assessment values, however, instead of using conservative risk parameters influences the magnitude of the risk, but this effect is not by as great an amount as some EPA critics have suggested. For our sample of sites, we have analyzed the effect of using mean values of several key components of the risk assessment. We used the mean exposure duration based on the literature. The mean intake rate based on evidence in the literature, and the mean chemical concentration value based on site-specific information. Altering all these factors reduces the median risk for our sample by roughly an order of magnitude.

The use of mean values will shift some sites where cleanup is warranted to the discretionary range, and some sites under the discretionary range would move to the no cleanup warranted category. The exact counts of how these sites are moved around is presented in my testimony.

The third policy principle is that risk to affected groups should be weighted to reflect the probability of exposure.

Our fourth principle for analysis is that the risk basis should be population risks such as the expected number of cases of cancer not individual risks. We take a different approach than does the EPA that in addition to looking at the probabilities, we also match these probabilities to the number of people exposed to the different sites using block and block group levels census data.

By using this approach, we also assessed which particular population groups are exposed. For the 1,193 sites that we analyzed on the National Priorities List, we found that there was a disproportionate share of minorities located either on or near Superfund sites.

Our fifth and final policy principle is that EPA needs to be given considerably more discretion if we are to achieve cost-effective risk regulations. Existing legislation indicates that if State or Federal standards exist for exposure to a given chemical, then these become the basis for remediation.

These other regulatory requirements often set very stringent cleanup standards. The risks are reduced to smaller levels than those that are results of EPA decisions, and generally these State-based remediation actions are less cost-effective than those chosen by EPA.

In short, we need to give EPA the opportunity to direct its resources more cost-effectively without such external constraints.

In summary, our policy principles are simple. We need to target Superfund resources where they will do the most good. We should focus our resources where the most serious risks are present and will affect large populations adversely. For EPA to accomplish these objectives, however, we must also free the Agency of the constraints imposed by other State and Federal regulations.

I will be happy to answer whatever questions you might have.

[The prepared statement of W. Kip Viscusi follows:]

PREPARED STATEMENT OF W. KIP VISCUSI, DIRECTOR, PROGRAM ON RISK ANALYSIS AND CIVIL LIABILITY, DUKE UNIVERSITY

I am happy to be here today to discuss my research on Superfund risks. I am the George G. Allen Professor of Economics at Duke University and have written 15 books and over 150 articles on different aspects of risk. I also serve on two EPA science Advisory Boards.

The work I will be discussing today is based on joint research that James T. Hamilton and I are undertaking under an EPA Cooperative Agreement. This research is not funded by a contract, and as a result we have considerable discretion. The views expressed today represent our own views, not those of EPA. We nevertheless hope that our work will serve as a pilot study for future Superfund policy analyses.

Our study is by far the most extensive of analysis of the risks associated with Superfund sites. Our primary data bass is a sample of 150 sites for which RODs were signed in 1991 and 1922. We also have undertaken a cost analysis using the full set of 270 sites for which RODs were signed in those two years. The regional distribution of our sample mirrors that of the full set of nonfederal Superfund sites on the National Priorities List.

This database is extremely extensive. We have information on all components of the risk calculations. We have also regenerated the risk pathways for these Superfund sites on a symmetric basis based on the chemical exposures at the site. Comparisons across sites are consequently meaningful and on a common basis. For costs, we have data on every component of both capital costs, operation and maintenance costs, and we have recalculated the present value of these costs on a consistent basis across all sites.

Superfund cleanup in a legitimate role for government action. There is no question of whether we should have a Superfund program. Rather, the question is what kind of program this should be. Private actions alone will not automatically address the problems posed by hazardous wastes. Government action is intrinsically necessary. Moreover, the technical nature of these problems leads us to believe that this action should be at the Federal level.

Let me turn now to the policy principles that we have developed. Many of these themes echo those of House bill H.R. 1022 with respect to the importance of sound policy analysis for government regulations. The first policy principle is that EPA should incorporate site-specific benefit-cost tests into its policy decisions. Consider the performance of the Superfund program with respect to reducing cancer. We recognize that this is an incomplete measure in that it excludes noncancer health effects, ecological damages, and losses to society, such as nonuse values associates with environmental contamination. However, examination of the cancer risk performance is nevertheless instructive in providing an index of the differing risks and costs among Superfund sites.

Some measures of the overall cost-effectiveness of the Superfund program are quite good. The average cost per case of cancer prevented is $2.9 million. Even after adjusting for the lag time involved and after using mean risk assessments rather than conservative risk assessments, the average cost per case of cancer avoided is under $8 million. This number compares quite favorably with other Federal risk programs and is in a range that is quite reasonable given evidence on the value of human life and health. Recognition of noncancer effects would improve the average performance even further.

However, most of the cost effectiveness is concentrated at a few sites. The cost per case of cancer figures across the entire program reflect a substantial range of cost effectiveness. Of the 751 expected cases of cancer associated with the 150 Superfund sites in our sample, 652 of these cases are attributable to a single site—the Westinghouse Electric site in California. There in also substantial concentration at other sites as well. Overall, 10 of the 150 sites that we analyzed had more than one expected case of cancer associated with it based on EPA risk assumptions that we combined with US. Bureau of the Census data (at the block and block group level).

The distribution of the cost per cases of cancer prevented spans a considerable range. For 17 sites in our sample, the cost per cancer case was under $10 million. For 27 sites in our sample the cost was $10 million-$100 million. For 99 sites in our sample, the cost was in excess of $100 million.

Several lessons for policy follow from this. The substantial heterogeneity in the efficacy of Superfund site cleanup suggests that the benefit-cost analysis should be site-specific, not program-wide. The variation in cost effectiveness suggests that the nature of the policy option selected should vary much more than it has across

Superfund sites. Unfortunately, existing legislation indicates a preference for treatment over other options such as institutional controls or contaminant. In addition, prevention of cancer cases alone will not provide a justification for the levels of cleanup that are currently being selected.

As part of any fuller analysis, we should explore more fully the role of effects other than cancer that may be instrumental. One such effect is noncancer health effects. These risks may be potentially important as well. For 125 of 130 sites in our sample, the noncancer risks had hazard quotients of at least 1.0, indicating a potential human health risk. Moreover, for 21 sites, EPA indicated that ecological risks were a basis for remediation. If policies are to be based on benefit-cost analysis, this analysis should be sufficiently comprehensive to encompass influences such as these as well as other losses, such as the public's valuation of a clean environment.

As part of these benefit-cost tests, we also advocate a second principle for policy, which is that risks should be valued at their mean value or expected level, not based solely on conservative scenarios. If the objective is to save the greatest expected number of lives, what is pertinent is the mean risk assessment not an upper bound on the risk.

Estimated risks based on conservative risk assessment assumptions are extremely high. These numbers are upper bound estimates based on conservative estimates of the individual risk parameters and their toxicity. At some sites, the true expected number of cancer cases could be close to zero. Contrary to conventional wisdom, the individual cancer risks in the Superfund program are considerable. At more than 80 percent of the sites, individual cancer risks are greater than 1×10^{-4}. Thus, the risks addressed by Superfund are very high compared with the 1×10^{-6} "bright lines" for other programs at EPA and other agencies. The emergency removal program alone is insufficient to address significant health risks. Even after the removal program addressed the immediate public health threats, the median maximum cumulative individual cancer risk faced at sites was 2×10^{-3}. Thus, even after removal actions, some sites pose extremely high risks to surrounding populations.

Shifting to mean risk assessment values instead of conservative risk parameters influences the magnitude of the risk, but not by as great an amount as some EPA critics have suggested. For our sample of sites, we have analyzed the affect of using mean values of several key components of the risk assessment—the exposure duration, the intake rate, and the chemical concentration. There are also many other assumptions, such as the probability of being exposed to the risk, which may be influential as well. Altering all of these factors reduces the median risk for our sample by roughly an order of magnitude—from 6.4×10^{-5} to 5.2×10^{-6}. The exact amount differs by site and is not a uniform factor. More importantly, this change shifts the maximum risk at sites in a manner that would affect cleanup decisions under current EPA guidelines. For the 88 sites for which we undertook this analysis, 8 sites would move from the optional cleanup range to the no cleanup warranted range. The number of sites in the intermediate range for which cleanup is optional would increase from 16 to 51. Noncancer risks could still indicate that cleanup is warranted at these sites.

If there is a policy preference for being conservative in the adoption of risk regulation policies, there are two alternative mechanisms for doing so. First, one could examine the 95th percentile over the overall risk distribution rather than using the 95th percentile of every component within the risk distribution. The current practices compound the degree of conservatism leading to a risk estimate that is at the 99th percentile or above. Another approach, which I believe is preferable, is that we can express our conservatism with respect to risk regulation policies by adopting a higher value of the benefits at stake, such as placing a high value on the case of cancers prevented. That form of conservatism would lead to aggressive risk regulation policies overall so as to generate the greatest expected benefits to society without giving undue attention to risks that are not well understood.

The third policy principle is that risks to affected groups should be weighted to reflect the probability of exposure. Present pathways are risks to current populations or future risks to these populations. The pathways called future pathways I would designate as "hypothetical" or "potential" pathways based an a possible land use changes in the future. For example, if nobody is living at a site now, but somebody could live there in the future, that would be a future pathway.

We could potentially eliminate these future risks through more limited policy options than cleanup. For example, land use restrictions potentially could address them. If we choose not to eliminate the risks in this manner, then we should nevertheless assess the probabilities that future land uses would expose potential populations to risk. We are in the process of developing population growth and land use models to try to antimate these probabilities.

The fourth principle for analyses is that the risk basis should be population risks such as the expected number of cases of cancer, not individual risks. The current population policy approach under EPA (OSWER) directives focuses on individual risks rather than cancer cases averted. If there is a risk pathway greater than 10^{-4} lifetime cancer risk, then policy action is warranted. If the risk is between 10^{-4} and 10^{-6} then EPA must explain why remedial action is warranted. At a risk of less than 10^{-6}, no action is warranted if cancer reduction is the sole objective.

The approach that we would advocate instead is to also examine the number of people exposed. We have done this for all the Superfund sites in our sample. The expected cancer case estimates that I dismissed above were developed in this manner. In particular, we have matched population groups to the Superfund site using block level census data and the GIS (or geographic information systems) methodology. We have mapped the shapes of the plumes of the contaminated water coming from the Superfund sites. We have plotted these plumes and have assessed the population located above them. We also have information on the number of people who draw their water from wells so that it is possible to arrive at an expected number of cases of cancer from groundwater ingestion.

It is also possible using population analysis to assess which particular population groups are exposed. A recurring issue has been the extent to which Superfund sites pose disproportionate risks to minority populations. Overall, 24 percent of the U.S. population consists of various minorities—American Indians, Asians, blacks, Hispanics, and other races. For the 1,193 sites on the National Priorities List, 29 percent of the population living within 4 miles of a Superfund site are minorities. Thirty-two percent of the population living within a quarter mile of a Superfund site are minorities, and 37 percent of the population living directly on site are minorities. For our particular sample of 150 sites, we have also analyzed the magnitude of the risks posed to minorities. Forty-one percent of the expected cancer cases will affect minority populations, though this result is very sensitive to the presence of one very high risk site in a minority population area.

The fifth and final policy principle in that EPA needs to be given considerably more discretion if we are to achieve cost-effective risk regulations. Existing legislation indicates that if state or federal standards (generally expressed in terms of concentration of the given chemical that is acceptable) exist for exposure to a given chemical, then these become the basis for remediation. State standards must be met if they are stricter. Groundwater standards exist for many chemicals from the Federal Clean Water Act or state legislation so that many chemicals involved with groundwater contamination at Superfund sites have cleanup standards imported into hazardous waste remediations from these other regulatory programs.

These other regulatory requirements are often the basis for the clinical remediation goals. In the case of soil remediation, state regulations account for 24 percent of the chemical remediation goals. For groundwater remediation, regulations other than Superfund are the driving force behind cleanup. Federal regulations, such as maximum contaminant levels promulgated under the Clean Water Act, account for 31 percent of the remediation levels. State maximum contaminant levels promulgated under state drinking water regulations account for 26 percent of the remediation goals, and other state regulations account for an additional 31 percent of the remediation goals. In short, EPA has very little discretion.

These other regulations often are quite stringent. For groundwater remediation, for example, the mean cleanup level implicit in state regulations is 7.6×10^{-6}, while the mean for Federal standards is 3.1×10^{-5} and the mean for risk-based standards is 1.1×10^{-5}. Groundwater remediations under state and Federal standards also embody a greater reduction in risks from existing levels than those derived from risk analysis at the site level. We need to give EPA the opportunity to direct resources more cost effectively without such external constraints.

In summary, our policy principles are simple. We need to target Superfund resources where they will do the most good. The risks assessed should be based on the expected risks posed to populations, and we should assess the size of these populations at risk. We should focus our resources where the most serious risks are present and will affect large populations adversely. Current populations should receive a greater weight than prospective future populations whose land use decisions can adapt in response to the cleanup option selected. For EPA to accomplish these objectives, however, we must also free the agency of the constraints imposed by other state and Federal regulations. I will be happy to answer whatever questions you might have.

Mr. OXLEY. Thank you, Dr. Viscusi, and let me begin by asking you what your study says as to the median cost-effectiveness for

the soil remediation and groundwater remediation at these particular sites that you have studied?

Mr. VISCUSI. Well, in my testimony I indicated that there was a substantial distribution with a lot of sites having cost per cases of cancer above $100 million. Generally, for the whole sample, the median cost per case of cancer was $337 million. For soil remediation, it would be $545 million, and for groundwater it would be $285 million. These estimates are based on EPA's risk assessments, or the conservative risk assessments, not based on mean risk assessments and they do not take into account any lag time for the cases of cancer.

Mr. OXLEY. And that is based on EPA's estimates as to the cancer risk; is that correct?

Mr. VISCUSI. That's correct. If you correct for the EPA estimates that go to the mean, and also discount to take into account the lag time before cases of cancer occur, depending on which of these numbers I gave, they would increase by a factor of 5 to 10.

Mr. OXLEY. Isn't it a fact that that risk factor could, indeed, be zero, and you could have a situation where you are spending millions of dollars trying to protect against a zero risk?

Mr. VISCUSI. For some sites, zero could be included in the potential distribution of the possible risks.

Mr. OXLEY. I know this is a difficult question, but we are trying to get our hands around this. That is, what is considered to be a reasonable cost to spend on reducing cancer risks?

Mr. VISCUSI. A lot depends on what your reference point is. Let me give you two reference points. If you look at evidence in the literature on the appropriate value of life in terms of how much people value their lives, it is generally $3 million to $7 million. So something in the vicinity of $10 million I would not think was excessive.

A second yardstick is what OMB has done in terms of rejecting regulations. Usually the threshold for OMB to reject regulations, given the existing legislative mandates, is a cutoff of $100 million per life. So certainly anything above that range, if that is all your program is addressing, would be out of line.

Mr. OXLEY. You mentioned the Westinghouse Electric site in California as an example of the risks posed by a single site. What is the character of these risks, and what accounts for the large cancer effect in a particular site like the Westinghouse site?

Mr. VISCUSI. This is a 75-acre industrial facility where they used to manufacture transformers, and there is an area contaminated by PCB's. It is about 650 square feet. Most of this area is paved over, but in the risk assessments, it is assumed that workers who are outdoors would be exposed to the risk.

In addition, the area is very densely populated, so there is 710,000 people who live within 3 miles, and we used the usual EPA assessment in assuming that people who live up to a mile away could be potentially exposed to the risk on that site.

Mr. OXLEY. Well, if it is paved over, as your testimony indicates, then the risk—I guess I am having a hard time understanding why that risk factor is so high based on the information that you gave us, and I guess that's your point.

Mr. VISCUSI. We don't adjust these risk estimates for the probability that somebody is actually going to be exposed. We take at face value the information presented by EPA in its analysis in terms of whether people would be exposed to the risk.

Mr. OXLEY. Okay.

Let me ask of Mr. Benton, you reached apparently an agreement at the Rocky Mountain Arsenal which is a consent agreement, as I understand it, that would be a legally binding agreement; is that correct?

Mr. BENTON. Mr. Chairman, this will not be reflected in the form of a consent agreement, it will be reflected in the documentation of the CERCLA process. That is to say, this agreement will be reflected in the proposed plan for remediation which will be published for public comment and then will be contained in the record of decision that will be issued. So it will be the final remedial document within the CERCLA remedial process.

Mr. OXLEY. Do you believe that actual application of the existing law would have driven a far more costly remedy?

Mr. BENTON. I think, Mr. Chairman, as I tried to indicate, the failure to take into account the critical role of land use so that we think hundreds of millions of dollars could have been saved in the $500 million that have been spent on the site for investigations and studies and overhead. We think that if the geology and hydrogeology of the site had been taken into account, the question of the elimination, control of exposure pathways in a competent risk assessment, that hundreds of millions, potentially billions of dollars could be saved.

Similarly, on the cost/benefit analysis focusing on actual risk rather than theoretical risk and, as I indicated, this agreement 10 years in the making we think will come down on the side of a reasonable balance between significant treatment where it is appropriate and very substantial containment where treatment is not appropriate.

So under existing law, after 10 years of effort, we, I think, have a remedy that will protect human health and the environment, will be cost-effective under the circumstances, and we hope will maybe set some performance criteria and standards that could be applicable to other Superfund sites, particularly large complicated sites with enormous volumes of contaminated soils.

Mr. OXLEY. Well, I think that is a positive message for us as we look at Superfund reform to take a look at and understand the kind of cost savings that we can effectuate by changing the statute and still protect human health and the environment, and I appreciate your testimony.

The gentleman from Louisiana.

Mr. TAUZIN. I thank the Chair.

Mr. Benton, let me first say that I appreciate your testimony regarding the admonition that we need to be careful not to allow the more aggressive States and those States which want to choose more expensive, least cost-effective remedies not to raid, if you will, the Superfund at the expense of other States and other sites that are waiting on the list.

I have been particularly concerned about it for a long time under the current law which is, in many cases, put some localities, some

communities, without as much political punch as others to wait down the line while others do cleanups and others have acquired status on the list.

I guess what I am saying, the status quo does not appear to address that problem yet either. You raised the question, if we turn it over to the States, is it going to get worse, and I suggest you are probably right. But how do we cure the status quo? How do we make sure that we get a real fair access to Superfund moneys for cleanups around the country, particularly for areas that are poor and rural and may not have the political punch of some of the more urban areas with more political punch?

Mr. BENTON. Mr. Tauzin, I believe the way to do is to take the essence of H.R. 1022 and make sure that those provisions relating to cost/benefit analysis where you get not just a term of cost-effectiveness, but you get a process where you can actually measure actual cost versus actual benefit, plus the risk assessment provisions of H.R. 1022, you make that a part of a modified Superfund bill so that whether it is EPA administering the law from Washington and through the regions, or whether it is the State of Colorado, or the State of Louisiana, or any other State, they will be bound to make a competent remedial judgment because the provisions of the law will direct them to do that.

Mr. TAUZIN. But you raise the next point I wanted to get into, which is where Mr. Milloy and Mr. Tarpoff, their testimony centered. That is the inappropriate application of the law by the Agency.

Mr. Milloy, you mentioned the fact that the Agency says it uses risk assessment but it uses very biased and unrealistic, exaggerated risk estimates in the calculations. You cite the case, an actual site where they assumed an individual would live for 500 years, which is slightly above average, I think. That is a common complaint we here of.

While we might pass risk assessment in the House, and while it might succeed in the Senate, the Agency says, oh, but we are doing that already. You could pass another bill requiring us to do it, we will just keep doing what we are doing. What they are doing doesn't appear to be real, unbiased risk assessment. How do we cure that problem?

Mr. MILLOY. Well, you are correct. The Agency primarily uses a very policy-based risk assessment which allows them to—it turns the process basically into where you just drop the site in the slot up here and the answer comes out here, and there is no science involved. It is all policy. All the decisions have already been made. So, in a way, it is predetermined.

How do you fix that? Well, you know, I also agree with you that as the law is currently written, there is ample room for EPA to use science-based risk assessment and to make——

Mr. TAUZIN. If they only wanted to use it.

Mr. MILLOY. If they only wanted to use it, if you could only compel them to do it.

Mr. TAUZIN. You also mentioned the ARAR's are arbitrary, nonrisk-based, and operate as a device to circumvent risk assessment results. Would you give me an example of how that works?

Mr. MILLOY. I have seen this time and time again in the ROD's. Let's just use cancer risk, for example. The cancer risk cutoff, if a site has cancer risks on the order of 1 in 10,000 or less, generally EPA will determine that as an acceptable cancer risk to the surrounding community, and cleanup will not be required.

Well, on occasion, if you get a risk below 1 in 10,000, but for some reason the Agency still wants to cleanup the site, they can find an ARAR that the site does not comply with, like a drinking water standard, and then order cleanup because the site does not comply with the ARAR.

Mr. TAUZIN. So that literally the law currently permits an easy way around risk assessment for the Agency, if it wants to continue making policy judgments rather than science-based judgments?

Mr. MILLOY. No question about it.

Mr. TAUZIN. By the way, we all sympathize with you. We had to work for a long time with your boss, and I saw him in the audience and I wanted to welcome him here.

Quickly, Mr. Tarpoff, I think my time is about out. You cite the EPA examples, 1, 2, 3, 4, 5. EPA proposes a community, et cetera, ends up with a public relations campaign to scare everybody into believing they have got a real problem, and then cleans it up.

Two questions. How do we get the Three-Cities Study released?

Mr. TARPOFF. Well, I hope you are on the right track, and I fear if you hadn't brought it up in the recent past, it would have never come back. The first round of review was very critical of the EPA's analysis and, as far as forcing it out, I don't know how you can do it.

Mr. TAUZIN. But they just refuse to release it, according to your testimony. That is what you see?

Mr. TARPOFF. Yes, sir.

Mr. TAUZIN. My time is up, but I do want to know more about the IEUBK computer model, where did it come from, who put it together, and its effects in this policy decisionmaking process?

Mr. TARPOFF. As I understand the IEUBK model, which has gone through continuous revisions, was around from the early 1980's. It was developed from, as I understand, an air model.

Mr. TAUZIN. An air bottle?

Mr. TARPOFF. Excuse me?

Mr. TAUZIN. Oh, an air model.

Mr. TARPOFF. Yes, a model on air exposure, and it had been applied, as I understand it, early onto soils. As I understand Dr. Bob Elias is responsible and has been for nearly 10 years for the furthering of this model.

Mr. TAUZIN. Thank you, sir.

Mr. OXLEY. The gentleman's time has expired.

The gentleman from California.

Mr. BILBRAY. Thank you, Mr. Chairman.

Mr. Milloy, you made a reference, and I would like to ask you about it. How did you arrive at your estimate that cleanup costs could be reduced by 60 percent if we used science-based risk assessment?

Mr. MILLOY. Well, what I have done is, I have taken all the ROD's issued between 1991 through August 1994, approximately 550, looked at all the risk assessment in those ROD's, pulled out

448 ROD's where there was enough data to do this analysis. I have also done analysis into the assumptions used in risk assessment on the toxicity side and exposure side. That is how I come up with my estimate that risk estimates are overestimated conservatively by a factor of 100.

From the ROD records, I have pulled out the highest risks at each site, or the cumulative risk, or the driving risk, whatever the key risk was at the site, have reduced those by the conservatism factor of 100, looked at how many sites then drop out because they do not meet the cancer and noncancer action levels that EPA has set. That number is 70 percent, and then if you do an analysis of the ROD costs for the sites that still need to be cleaned up, you get about a 60 percent reduction.

Mr. BILBRAY. On what basis did you come up with that 100 percent overstatement? Was this basically based on the——

Mr. MILLOY. The factor of 100?

Mr. BILBRAY. Yes.

Mr. MILLOY. That is based on an examination of contaminants that are found at Superfund sites, their toxicity assessments, the exposure assessment process. I had done an analysis of——

Mr. BILBRAY. But the exposure assessment was the big factor for all the ones you are finding that you need to bring that dose of reality in by looking at what the exposure potential is?

Mr. MILLOY. Well, the exposure is major, but I think that the major error is done on the toxicity side. Exposure is routinely good for anywhere between 10 to a factor of 100.

On the toxicity side, you can get 10 to 1,000. There are some chemicals that are overestimated by 1 million or more.

Mr. BILBRAY. Thank you.

Doctor, the EPA asked you to take a look at this and study it. You know, I was listening to the testimony. It was interesting to see the mile, you know, the determination that the exposed population was within a mile.

Then when we hear that in reference to PCB's, you know, from my environmental health background, PCB's are not a major migratory component. They tend to bond to soils. They are not necessarily airborne. How does EPA come up with this idea that PCB's are a threat within a mile range?

Mr. VISCUSI. What we have here is, in effect, the equivalent of dilution factors. As you go farther and farther from the site, there is a lower probability of being exposed, whether it is dust in the air, but there is no adjustment for the nature of the chemical.

Mr. BILBRAY. Yes, because PCB's tend to bond with it, but also tend to be a causing of a settle, and so they are probably looking at something like PM-10 migration with a substance that would eliminate the problem of PM-10, and sometimes I wonder where they get their numbers and how they get it.

I was interested in your discussion about going from the individual risk over to the population exposure much like we do with air pollution. Frankly, I don't think those of us in California are that far behind the times that our risk assessment is dwarfed by the EPA's adjustment.

Frankly, what you were talking about was looking more at going back to what we use in California, and what we use in air pollution to do the proper population risk assessment.

Mr. VISCUSI. I think the most innovative part of our study is using the population approach. The current focus is on the risk levels, the individual risk where the critical cutoff is a risk of 1 in 10,000, but it may be even a smaller risk is important if you have hundreds of thousands of people nearby, or a large risk may be unimportant if there is nobody nearby.

So what we did is, we matched for each site the risks up to block and block group level census data, and in the case of groundwater contamination, we plotted the plumes and figured out who exactly did have wells over the plumes to figure out who would be exposed.

So these are more real than if you ignore whether somebody is present there.

Mr. BILBRAY. Well, the biggest concern I ran into was the frustration with the fact that that type of work isn't done. There is sort of an automatic exposure being kicked in so often by EPA. On the flip side, from serving with the State Air Resources Board, the public exposure of the remediation and the impact to the air pollution of actually going in and cleaning up the site, wasn't given as much weight in many instances as the original assumption.

So they almost had this double standard that we are going to go in and jack the numbers up on leaving the material where it is, but when we talk about going in and cleaning it up, the environmental impacts of actually cleaning it up, such as bringing in the equipment, and the latest data on diesel emissions and the toxicity of diesel emissions is ignored.

You know, the frustrating thing is, it is as if everything is designed around spending as much money and pushing as much paper as possible. I was frustrated with the fact that 40 percent of the money that is supposed to be used for cleaning up environmental problems are being used to fill out reports and paying for lawyers. That is 40 percent that could be used for protecting the children and the next generation.

But it seems like there is almost this defensive mechanism that the system that has developed over the last 25–30 years around this program becomes more important than protecting the public health. I think that is something we need addressed.

Thank you very much, Mr. Chairman.

Mr. OXLEY. The gentleman's time has expired.

I now recognize the gentleman from Georgia, Dr. Norwood.

Let me first say, I didn't have a chance to welcome the gentleman to the subcommittee at our markup, we were so busy, but I do want to welcome him as a new member of the subcommittee, and I know that his expertise and industry will help us through this very difficult issue called Superfund reform.

I recognize the gentleman for questioning.

Mr. NORWOOD. Thank you, Mr. Chairman. I am very pleased to be on the subcommittee.

My first question is for Mr. Benton, I think, although I would welcome this answer from anyone. As we all are well aware, Superfund is famous for its extravagant remedies. As I understand it under current regulation, EPA first decides how much cleanup

is needed at a site without any regard for the cost. Then EPA compares the cost and benefits of the various remedies that meet the cleanup level that they have already chosen. In this way, cleanup levels limit the ultimate cleanup decision before cost is ever considered. Shouldn't cost be one of the factors considered at the outset of this process, back when we determine what the cleanup level for the site should be?

Mr. BENTON. I think the concept of H.R. 1022 puts the question of cost right up front. It converts the term "cost-effectiveness" which exists in the present law, which has enormous discretion that permits people to justify whatever remedy they have in mind, whether it is extraordinarily invasive and complicated expensive treatment, or whether it is containment, on the other hand. H.R. 1022 says, you must as an integral part of the remedy selection process make an actual determination of what the actual cost is going to be, and you relate that actual cost then to the real benefit overcoming actual, not theoretical risk, so that you can see directly and appropriately the relationship between what you are spending and the benefits in terms of protecting human health that you are going to get.

So I agree with the member that cost needs to be elevated and not just the term, but the process by which you can make these judgments as a part of the remedy selection process.

Mr. NORWOOD. Mr. Benton, do you believe H.R. 1022 leaves them any wiggle room, or will they actually have to do it this time?

Mr. BENTON. I think I would suggest to the gentleman that human beings being what human beings seem to be, there will always be wiggle room. But somehow common sense needs to invade the remedial selection process. To the extent that this committee can create any imaginative, creative, and even unheard of legislative language that would say, please use the kind of common sense that we all try to use in our daily lives, in our work, and which you gentlemen in the Congress attempt to do every day, that could be highly therapeutic.

Mr. NORWOOD. Well, my observation is that the bureaucrats in Washington, D.C., are the best wigglers I have ever seen. I will have to tell you that.

Mr. Tarpoff, along the same line, from your work with other members of the coalition, tell me what your opinion is on the use of scientific review and risk assessment used by EPA today?

Mr. TARPOFF. Well, unfortunately, it appears that the review and assessment is all internal. We have fought for 2 years with regards to the new soil-lead guidance trying to get scientific peer review and public comment into that development, and we failed. EPA refused to allow peer review and public comment on that.

The risk assessment and, again, I am most familiar with lead sites, are based on basically the biokinetics model, and the cleanups developed by that are grossly overstated.

Mr. NORWOOD. Do you think we are in the right direction with H.R. 1022, are we going to get them to actually give us some good science and risk assessment?

Mr. TARPOFF. My only concern is, if they can circumvent H.R. 1022 with issuing further guidance and directive, what have we accomplished.

Mr. NORWOOD. That's right.

Last question, Mr. Chairman, and this one is on behalf of Mr. Crapo, he was sorry that he had to leave.

Mr. Tarpoff, this one again is for you. We know that EPA spent $15 million on their Three-Cities Study. Why won't they release that?

Mr. TARPOFF. Well, there is some question as to whether or not it has been released, and I should have mentioned earlier, how do you get it out. It has been out once in review draft form. Now, whether the EPA decides to resubmit it for peer review, that is another question. But the results of the Three-Cities Study did not at all support EPA's position on the soil blood-lead relationship.

Mr. NORWOOD. Are you saying we have the final report on the Three-Cities Study?

Mr. TARPOFF. No, sir. No, sir. We do not have the final report, nor do we have the whole database that was——

Mr. NORWOOD. Congressman Crapo has been trying to get it for 3 years. Is there something I don't understand up here in this process?

Mr. TARPOFF. There is a seven-volume draft review document that EPA issued.

Mr. NORWOOD. Well, for $15 million, it ought to be seven volumes.

Mr. TARPOFF. But, no, it is not the final document.

Mr. NORWOOD. Mr. Chairman, if we could find out how we can get documents from Federal agencies, it would be real helpful, and I will yield.

Mr. OXLEY. The gentleman's time has expired.

The gentleman from Michigan, and the ranking member of the full committee.

Mr. DINGELL. Mr. Chairman, I thank you.

Mr. Milloy, you testified, "our research indicates that science-based risk assessment could reduce cleanup costs on the order of 60 percent." The basis for this statement appears to be found at the bottom of page 17 of the interim report where you state that, based on your reduced risk estimates, 328 ROD's, or 73 percent of the 448 ROD's you reviewed, would result in no action or no further action remedies.

Can you provide the identity by name and description of each of the 328 ROD's that, under your risk assessment scenario would be no action or no further action remedies?

Mr. MILLOY. Yes, I can. I will forward them to you.

Mr. DINGELL. If you please.

[The list of 328 ROD's follows:]

Year	ROD	Year	ROD
1994	Loring Air Force Base (OU6) ME	1994	Torch Lake (OU2) MI
1994	Kenmark Textiles Printing NY	1994	Paducah Gas. Dif. Plant KY
1994	Riverbank Army Ammo Plant CA	1994	Anaconda Smelter MT
1994	George Air Force Base (OUI) CA	1994	INEL (OUs 7-12) ID
1994	Luke Air Force Base (OU2) AZ	1993	Mather AFB ACW Site CA
1993	NAS Whidbey Island (OU4) WA	1993	Sharon Stl (OU1) UT
1993	Norton AFB (Central Base OU) CA	1993	Brown & Bryant Arvin Facility (OU1) CA
1993	Ft. Lewis (LF #4/SRCPP) WA	1993	Juncos Landfill (OU2) PR
1993	Chemical Leamam TL (OU3) NJ	1993	Janssen Inc PR
1993	Universal Oil (OUI) NJ	1993	Delaware Sand & Gravel DE

Year	ROD
1993	Novak Sanitary LF PA
1993	Powell Road Landfill OH
1993	Harbor Island WA
1993	Eastern Diversified Metals (OU2) PA
1993	Adams Plating Company MI
1993	North Sea Municipal Landfill NY
1993	Kalama SpecialTy Chem. SC
1993	Pease AFB JETC (Site 34) NH
1993	Naval Air Warfare Center (OU10) NJ
1993	Naval Air Warfare Center (OU12)
1993	Naval Air Warfare Center (OU22)
1993	Naval Air Warfare Center (OU14)
1993	SMS Instruments Inc (OU2) NY
1993	FCX-Statesville NC
1993	Ott/Story (OU3) NU
1993	American Cyanamid (OUI) NJ
1993	Camp Lejeune (OU2) NC
1993	McGraw-Edison IA
1993	Cleveland Mill NM
1993	Stauffer Chemical (OU3) AL
1993	Chemform Inc (OU2) FL
1993	Reeves SE Corp. (OU2) FL
1993	Sand Creek (OU5) CO
1993	McClellan AFB (OU-BI) CA
1993	NAS Brunswick Site 8 ME
1993	Applied Materials Inc CA
1993	Newmark GW Cont (Newmark OU) CA
1993	Paducah Gaseous DiFF Plt NW Plume Ky
1993	Occidental Chemical Corp PA
1993	Dakue Sanitary Landfill (OU2) MN
1993	Vertac (Onsite OU1) AR
1993	Sand Creek Industrial (OU2) CO
1993	Allied Plating OR
1993	Naval Air Warfare Center (OU9) NJ
1993	Peak Oil/Bay Drums (OU1) FL
1993	S Fern V (Glendale N OU) CA
1993	Commencement Bay OU4 WA
1993	Chemplex (OU2) IA
1993	Syntex Agribusiness (OU2)
1993	Bypass 601 GW NC
1993	FMC Dublin Road NY
1993	Plattsburgh AFB DR/MO (SS-011) NY
1993	Peak Oil/Bay drums (OU3) FL
1993	North U Drive Well Contamination MO
1993	Nyanza Chemical OU3 MA
1993	Red Oak Landfill IA
1993	Sacramento Army Burn Pits OU CA
1993	Hercules 009 LF (OU1) GA
1993	Alaskan Battery Enterprises AK
1993	ABC Cleaners NC
1993	Mass. Mil Res LF 1 MA
1992	Umatilla Army Deact Furn (Soils OU) OR
1992	Chemical Sales Co (OU4) CO
1992	INEL OU2-12 Test Reactor Area Water Sys
1992	Reeves Southeastern Corp FL
1992	Revere Textile Prints CT
1992	Cosden Chemical NJ
1992	Endicott Village NY
1992	Higgins Farm NJ
1992	Plattsburgh AFB (OU3) NY
1992	Rowe Industries GW NY
1992	Rhinehart Tire Fire Site (OU2) VA
1992	Tonolli PA
1992	USDOE Oak Ridge (OU6) TN
1992	H. Brown Company MI

Year	ROD
1993	Adams Cty LFs 2&3 IL
1993	Tenth Street Dump/Junkyard OH
1993	Naval Sub Base (OU5) WA
1993	NADC (OUI) PA
1993	Sherwood Medical Company NE
1993	Woodland Township Rte 532/72 Dumps (OU2) NJ
1993	Hi-Mill Manufacturing Co. MI
1993	Lodi Municipal Well (Home Place Well) NJ
1993	Naval Air Warfare Center (OU11)
1993	Naval Air Warfare Center (OU15)
1993	Naval Air Warfare Center (OU23)
1993	Naval Air Warfare Center (OU13)
1993	Tronic Plating Company NY
1993	Mason County Landfill (OU2) MI
1993	Sani LF/Card Rd LF OH
1993	Niagra County Refuse NY
1993	PCA (Groundwater OU) MI
1993	INEL (OU 7-10) RWMCSDArea-Pit 9 ID
1993	PAB Oil & Chemical LA
1993	Beulah Landfill FL
1993	Camp Lejeune (OU3) Site 48 NC
1993	Helena Chemical SC
1993	Duell-Gardner Landfill MN
1993	NAS Brunswick Sites 5&6 ME
1993	Rochester Property Site SC
1993	Def. Dist. (OUI) CA
1993	Wilson Farm NJ
1993	Geiger (C&M Oil) (Amendment) SC
1993	Recticon/Allied Steel PA
1993	Woodstock Municipal LF IL
1993	Hastings GW (OUs 13&18) NE
1993	McColl Site (OU1) CA
1993	Firestone Tire & Rubber GA
1993	Naval Air Warfare Center (OU8) NJ
1993	Liquid Gold Oil Corp. CA
1993	Anodyne Inc FL
1993	Mountain Home AFB (OU2)
1993	Cedartown Industries GA
1993	Monroe Township Landfill
1993	Batavia Landfill NY
1993	Johnson City LF NY
1993	Ohio River Park Site OU2 Bridge Portion PA
1993	Wash King Laundry MI
1993	San Gabriel Areas 1-4 Whittier Narrows OU CA
1993	Robintech Inc. (OU 2) NY
1993	Eagle Mine Site OU1 CO
1993	Salem Acres Site MA
1993	Mathis Bros S Marble LF GA
1993	Craig Rd LF/Fairchild AFB WA
1993	Defense Dist Reg/W Sharpe CA
1992	INEL OU4-11 Cen Fac Area Motor Pool Pond
1992	F.E. Warren AFB OU4 WY
1992	Redwing Carriers (Saraland) AL
1992	Williams AFB OU2 AZ
1992	Holton Circle Groundwater Contamination NH
1992	Bioclinical Lab Inc NY
1992	Dover Municipal Well No. 4 NJ
1992	FAA Technical Center NJ (no further action)
1992	Islip Municipal LF NY
1992	Plattsburgh AFB (OU1) NY
1992	C&D Recycling PA
1992	Suffolk City Landfill VA
1992	USDOE Oak Ridge Reservation (OU18)
1992	Alsco Anaconda OH
1992	Le Grande Sanitary Landfill MN

Year	ROD
1992	New Brighton/Arden Hills MN
1992	Torch Lake (OUs 1 & 3) MI
1992	Pester Refinery KS
1992	USDOE INEL (OU22) ID
1992	Pesticide Lab - Yakima WA
1992	Abex VA
1992	Agrico Chemical FL
1992	Butterworth Landfill MI
1992	Cal West Metals NM
1992	Farmers Mutual Cooperative IA
1992	Eielson AFB AK
1992	Wyckoff Eagle Harbor WA
1992	Preferred Plating NY
1992	Dixie Caverns County Landfill VA
1992	Madison County Sanitary Landfill FL
1992	Double Eagle (OUl) OK
1992	Wilson Concepts of Florida
1992	Des Moines TCE
1992	Carrier A/C TN
1992	Marine Corps Logistics Base GA
1992	Lawrence Livermore NL CA
1992	Fort Lewis (Landfill No. 5) WA
1992	CIBA-GEIGY (McIntosh Plant) AL
1992	Darling Hill Dump VT
1992	USA Aberdeen MD
1992	Florida Steel Corp FL
1992	Metal Working Shop MI
1992	Arrcom (Drexler Enterprise) ID
1992	Ogden Defense Depot (OU1) UT
1992	Electrovoice Site (OU1) MI
1992	Brunswick NAS (OU1) ME
1992	Crystal Chemical Company TX
1992	Oklahoma Refining Co OK
1992	Otis Air National Guard Camp MA
1992	Pacific Hide & Fur Recycling ID
1992	Ramapo Landfill NY
1992	Chem-Solv DE
1992	Strasburg Landfill OU3 PA
1992	Twin Cities AF MN
1992	Pacific Coast Pipeline CA
1992	Defense Gen Supply Center (OU5) VA
1992	Grand Traverse Overall Supply MI
1991	NAEC (OU5) Site 44 NJ
1991	Denver Radium Site (OU9) CO
1991	Sacramento Army Depot (OU3) CA
1991	Charles Macon L&DS NC
1991	FronterA Creek PR
1991	Rockaway Borough Wellfield NJ
1991	Upper Deerfield Landfill
1991	Hebelka Auto Salvage Yard PA
1991	McAdoo Associates PA
1991	Saunders Supply VA
1991	CIBA-GEIGY AL
1991	Fultz Landfill OH
1991	Motor Wheel MI
1991	Organic Chemicals MI
1991	Sturgis Municipal Wells MI
1991	Hastings GW (OUs 10&2) NE
1991	Hill AFB UT
1991	Yakima Plating WA
1991	Hertel Landfill NY
1991	USA Aberdeen/Edgewood MD
1991	Mesa Area GW AZ
1991	Roebling Steel NJ
1991	Fort Dix Landfill NJ
1992	Reilly Tar & Chemical MN
1992	Prewitt Refinery MN
1992	Purity Oil Sales CA
1992	Joseph Forest Products OR
1992	Tibbetts Road NH
1992	Commodore Semiconductor PA
1992	New Hanover Cty Airport Burn Pit NC
1992	Tar Lake MI
1992	29th & Mead GW KS
1992	Defese Distribution Depot (OU3)
1992	McChord AFB (WR) WA
1992	North Sea Municipal Landfill NY OU2
1992	Witco Chemical (Oakland Plant) NJ
1992	Route 940 Drum Dump PA
1992	Standard Auto Bumper FL
1992	Chemform Inc NY (OU1)
1992	Bunker Hill M&M Complex ID
1992	Sacramento Army Ox Lagoons OU CA
1992	Geigy Chemical Corp NC
1992	Hassayampa Landfill AZ
1992	Benfield Industries NC
1992	Paoli Railyard PA
1992	Brown's Battery Breaking PA
1992	Action Anodizing Plating & Polishing NY
1992	Westinghouse Elevator Plant
1992	Yellow Water Road Dump FL
1992	Silver Bow Creek/Butte Area MT
1992	Moseley Road Sanitary Landfill
1992	Woodbury Chemical Co FL
1992	Brunswick NAS (OU2) ME
1992	Whitehouse Waste Oil Pits FL
1992	Mountain Home AFB (OU4) ID
1992	Spickler Landfill (OU1) WI
1992	Defense General Supply Center VA
1992	Pasley S&C NY
1992	Robintech Inc NY
1992	Lindane Dump PA
1992	Columbus Old Municipal Landfill IN
1992	Portland Cement Co UT
1992	Kohler Co. Landfill OU1 WI
1992	Hydro-Flex Site KS
1992	NAEC (OU5) NJ
1991	Raymark Site (OU1) PA
1991	NSB OU1 Bangor Site A WA
1991	Westinghouse CA
1991	Fibers Public Supply Wells PR
1991	NAEC (OU3) NJ
1991	Sinclair Refinery NY
1991	Dorney Road Landfill PA
1991	Hellertown Mfg PA
1991	Old City of York Landfill PA
1991	Sealand Ltd DE
1991	Berlin & Ferro MI
1991	Michigan Disposal Service MI
1991	National Presto Industries WI ROD)
1991	Stoughton City Landfill WI
1991	Zanesville Well Field OH
1991	Central City CO
1991	Northwest Transformer
1991	Sullivan's Ledge MA
1991	Swope Oil & Chemical NJ
1991	USA Aberdeen/Michaelsville MD
1991	Sola Optical USA CA
1991	South Jersey Clothing NJ
1991	Juncos Landfill PR

Year	ROD	Year	ROD
1991	Mid-America Tanning IA	1991	John Deere (Ottumwa Works Landfill) IA
1991	Golden Strip Septic Tank SC	1991	Indian Bend Wash Area (OUs 1&4-6) AZ
1991	National Semi (Mono Mems) CA	1991	Van Waters & Rogers CA
1991	Cimarron Mining NM	1991	Novaco Industries (Amendment for 1986 ROD)
1991	Bunker Hill M&M Complex ID	1991	Tri-City Industrial KY
1991	AMD #915 CA	1991	Micro Storage/Intel Magnetics CA
1991	USA Letterkenny-PDO PA	1991	USA Letterkenny-SE PA
1991	AO Polymer NJ	1991	Nascolite NJ
1991	Halby Chemical DE	1991	Modern Sanitation Landfill PA
1991	Resin Disposal PA	1991	Strasburg Landfill PA
1991	Arlington B&P TN	1991	Oak Ridge Reservation (OU2) TN
1991	Dakhue Sanitary Landfill MN	1991	Ossineke Groundwater Contamination MI
1991	Pagel's Pit IL	1991	Lehigh Portland Cement IA
1991	CTS Printex CA	1991	Synertek (Building #10) CA
1991	Warwick Landfill NY	1991	Chemical Sales (OU3) CO
1991	Chemical Sales (OU2) CO	1991	Robins AFB GA
1991	Applied Environmental Services NY	1991	Fadrowski Drum Disposal WI
1991	Dupont (Coutry Rd X23) IA	1991	Mottolo Pig Farm NH
1991	C&J Disposal NY	1991	Circuitron NY
1991	Colesville LF NY	1991	Conklin Dumps NY
1991	Waldick Aerospace NJ	1991	Brodhead Creek PA
1991	Delta Quarnes/Stotler LF PA	1991	Industrial Drive PA
1991	Main Street Well Field IN	1991	Wasatch Chemical (Lot 6) UT
1991	Rasmussen's Dump MI	1991	Lee Chemical MO

Mr. DINGELL. Now was your statement peer reviewed?

Mr. MILLOY. It will be. The final report will be peer reviewed, yes, sir.

Mr. DINGELL. It was peer reviewed?

Mr. MILLOY. The final report will be peer reviewed.

Mr. DINGELL. Will be peer reviewed.

Mr. MILLOY. Will be peer reviewed.

Mr. DINGELL. It has not, however, now been peer reviewed?

Mr. MILLOY. It has not been. It is just an interim report.

Mr. DINGELL. I see.

Now your statement emphasizes speedy cleanup of more sites can be achieved through science-based cleanups. Now I guess that is true if you do not have any cleanups or very limited cleanups at 3 out of every 4 sites. I am not sure that 1 in 4 Americans who live near Superfund sites would share your view that no cleanup equates to speedy cleanup. Do you have a comment on that?

Mr. MILLOY. Mr. Dingell, I think that we should cleanup sites that need to be cleaned up that have been identified by science, not through policy. The fact that EPA says that 1 out of 4 Americans live near Superfund sites, I don't know that that figure really means anything because how many of those Americans live by sites where there are actual risks to their health?

Mr. DINGELL. You have indicated that your scientific and economic conclusions have not at this time been peer reviewed.

Mr. MILLOY. They will be peer reviewed for the final report.

Mr. DINGELL. Now, who will do the peer reviewing?

Mr. MILLOY. The peer reviewers will be former EPA Assistant Administrator Winston Porter who is now with National Environmental Policy.

Mr. DINGELL. Will it be balanced? Will the peer review panels be balanced?

Mr. MILLOY. If there is anyone who would like to peer review my report and give me comments, I would be pleased to send it to them.

Mr. DINGELL. I am not volunteering it, but we have always heard that peer reviews should be balanced, and I am curious, if this is to be peer reviewed, will it be peer reviewed by a balanced panel? Can you assure us that after the peer review the same conclusions will be arrived at?

Mr. MILLOY. Congressman, I have peer reviewers in mind, but if there is anyone, and I am announcing this publicly, anyone that would like to peer review my report, they are welcome to contact me at the National Environmental Policy Institute, and I would be happy to share that with them, and include a section on comments.

Mr. DINGELL. You have made a statement that over 70 percent of remedial actions are conducted exclusively for future hypothetical risk. Has that been peer reviewed?

Mr. MILLOY. That is in the same status as the rest of the report.

Mr. DINGELL. Thank you, Mr. Chairman.

Mr. OXLEY. The gentleman's time has expired.

The gentleman from New York, Mr. Frisa.

Mr. FRISA. Thank you, Mr. Chairman.

A question for Dr. Viscusi. Why would one not want to be conservative in protecting against risk, because some people have questioned why we wouldn't want to err on the side of caution?

Mr. VISCUSI. That certainly sounds like something reasonable to do, to err on the side of caution. But really, this is a somewhat different issue than that summary phrase might suggest.

Consider the following example, let's say you have one risk that is going to injure you with a probability of 8 and 10, and another one you are not sure how big it is, it is either 1 in 10 or 9 in 10. You are going to save the greatest expected number of lives if you address the risk that is higher on an expected value, the 8 in 10 risk, whereas erring on the side of caution is going to tilt to toward worrying about risk that potentially could be big, but they are going to divert your attention from the real risks that actually are big.

So almost all economists I know advocate addressing the expected risk as opposed to the worst case scenario.

Mr. FRISA. And what view does the EPA currently take?

Mr. VISCUSI. Their focus is on the more conservative or upper-bound approach, and in terms of our analysis, we use Monte Carlo analysis, and the effect of their conservative risk assumptions is to focus, in effect, on the upper 1 percent of where the risk potentially could be.

Mr. FRISA. So, in other words, they tend to focus on the most extreme potentiality, but not the most likely?

Mr. VISCUSI. That's correct. That is what these assumptions do.

Mr. FRISA. Why would they use that approach?

Mr. VISCUSI. I think it is tradition. Lots of Federal agencies do it. I mean, I can't think of a good rationale. People want to be cautious, and my approach to being cautious would be to use a high value per case of cancer, not to distort your risk assessments the way it is done today.

Mr. FRISA. Could you explain that in layman's terms?

Mr. VISCUSI. Let's say you want to be very aggressive in terms of cleaning up your Superfund sites. The way I would use being aggressive would be to say, we will spend a high amount of dollars for every case of cancer prevented. That would be aggressive. The approach that is being taken now throughout the Federal Government, not just at EPA, is not only to spend a high amount per case of cancer, but also to inflate the risks that are out there to the worst possible situation that could possibly prevail. So then, in effect, you get an overstatement of the risks.

So I don't believe you should have dishonest science. The science you have should be honest science focusing on the mean risks, not the worst case that could possibly happen because, when you focus on worst cases, in effect, anytime you don't know anything about a risk, that is the one you are going to pay the most attention to because it could possibly be very bad. So it diverts your attention from the real risks that are probably big.

Mr. FRISA. Thank you, Doctor. That was very helpful.

I yield back the balance, Mr. Chairman.

Mr. OXLEY. The gentleman's time has expired.

The gentleman from Washington State, Mr. White.

Mr. WHITE. Thank you, Mr. Chairman.

I actually have a question that I would be delighted to have an answer from anyone on. It is a general question, it is just about how the Superfund Program has worked since it started. Does anybody know, just on a rough basis, how much we have spent in total since the inception of the Superfund Program in an effort to comply with that, does anybody have a number for me?

Mr. MILLOY. I have heard estimates that range between $30 and $50 billion since 1980. That includes government costs and private party costs.

Mr. WHITE. Okay, so that would include both sides.

Do any of you know how many sites we have actually cleaned up during this period?

You know, when I can stump a panel of experts like you, I feel pretty proud of myself.

Mr. MILLOY. Well, it is very hard to figure out because there are sites that are on the National Priorities List. There are also sites that are handled through section 106 of CERCLA. It is very hard to get a handle on exactly how many sites. Only EPA has that data, and that question is best put to EPA.

Mr. WHITE. Okay. We will have an opportunity to do that a little later.

Do you know what percentage of the money we have ended up spending actually goes to cleaning up a site as opposed to the legal and regulatory problems that we have to deal with in the sense of paying legal fees, filing reports, and that sort of thing?

Mr. BENTON. Congressman White, I can't give you those numbers on a national basis, but I can give you a site-specific comment with respect to your question.

Mr. WHITE. Great.

Mr. BENTON. Shortly, the U.S. Army and Shell Oil Company together will have spent approximately three-quarters of a billion dollars at Rocky Mountain Arsenal. Approximately $500 million of those dollars will have been spent on remedial investigation stud-

ies, and overhead. As I earlier testified, we think that a very substantial multiple, hundreds of millions of dollars could have been saved at that site had we been properly focusing on land use, site-specific conditions, and effective cost/benefit analysis and competent risk assessment. $250 million of the $750 million actually has been spent for remediating the most urgent problems of contamination on the site.

Mr. WHITE. You said you thought that the overall number to cleanup this site, if you are lucky, would approach about $2 billion, or wouldn't be too much higher than that, if you were able to implement the agreement you came up with.

Mr. BENTON. That is our expectation.

Mr. WHITE. How do you think those percentages will break down? How much of that money will be spent in actually cleaning up the site, and how much on these others things?

Mr. BENTON. My expectation, Congressman White, would be that we are past the heavy duty lifting, if you will, of paying investigators and lawyers and other miscellaneous people, and that the great bulk of that money will go into engineering, design, construction, and initial implementation of the response action program.

Mr. WHITE. Okay. So once you have gotten through the process to come up with a plan, and everybody agrees on the plan, then you can go and actually spend the money to cleanup the site?

Mr. BENTON. That's our expectation and our hope.

Mr. WHITE. Let me ask a question of Dr. Viscusi, and actually I would be interested to hear other people's comments on this also. You know, in your testimony, Dr. Viscusi, you made the point that what you are really looking at here, the principle that would help us improve the Superfund Program is a site-specific cost/benefit analysis. In other words, let's look at the particular situation we have, and I think Mr. Benton mentioned the same thing, if we look at the specific situation we have and make some judgments about that case, that is the way to solve this problem.

Is this really anything other than saying, let's use some common sense on these things, or is there something more specific we can do to make sure that we have the agencies moving in the right direction?

Mr. VISCUSI. I think the site-specific benefit/cost analysis is the way to force people to use common sense analytically. So it indicates that there are actual tradeoffs to be made, and that you should try to figure out not only the magnitude of the risk, but how many people are exposed to the risk, and figure out is it worth spending the money to achieve that objective.

So, from that standpoint, I think all it is is common sense in looking at the competing things, the issues that are present in any policy decision.

Mr. WHITE. How successful are we going to be at doing this? I mean, it is one thing to tell somebody to use common sense. I mean, ideally, what you would like to do is find somebody with common sense and say, go out and solve this problem. But we can't quite do that.

Do you think the bill that we have before us sets out a program that will at least approach that in terms of giving them some clear standards on how to apply common sense to these problems?

Mr. VISCUSI. I think the bill would do it, and also, when we started this project, people said, you can't do it. They said, it is impossible to benefit/cost analysis for Superfund sites. We have done it for the costs, we have done it for expected cancer cases, and if EPA were to implement it, all they would then have to do is assess the noncancer effects and the ecological risks, and make some overall judgment as to what you want to do.

So it is certainly feasible to do the kinds of things that are spelled out in the legislation.

Mr. WHITE. Okay. Thank you.

Thank you, Mr. Chairman.

Mr. OXLEY. The gentleman's time has expired.

The gentlelady from Arkansas, Mrs. Lincoln.

Mrs. LINCOLN. Thank you, Mr. Chairman. I apologize for being tardy today.

I do have one question. I think it is probably most appropriate for Mr. Milloy and Mr. Viscusi, and perhaps the second panel, and it is in relationship to how you all would elaborate on the treatment of groundwater in remediation actions.

Mr. MILLOY. Could you be a little more specific? How would I——

Mrs. LINCOLN. Well——

Mr. MILLOY. I would basically approach a site, if the groundwater was contaminated and posed a real risk to existing exposed populations, I would remediate that immediately.

Mrs. LINCOLN. Existing exposed populations in the vicinity?

Mr. MILLOY. People that are currently using the groundwater, I would remediate that immediately. If it was not a current risk to anyone, but posed a hypothetical future risk, then I would clean it up based on the anticipated future land use associated with that particular area and users of groundwater.

Mrs. LINCOLN. I guess, to be a little bit more specific, my concerns stem from statements where groundwater should only be cleaned up where it is being consumed.

Mr. MILLOY. Well, groundwater may need to be cleaned up where there is reasonably likely future land use, where it is going to be used maybe in 10, 20, 30 years.

Mrs. LINCOLN. Well, in my district it moves pretty rapidly and pretty quickly.

Mr. MILLOY. Excuse me?

Mrs. LINCOLN. In my district, the groundwater, which is our biggest commodity, moves awfully quickly.

Mr. MILLOY. Well, once again, if it is moving and it is posing a threat, then it needs to be dealt with. The problem is that not every site that has contaminated groundwater necessarily has to be cleaned up. Every site has to be dealt with individually.

There is no black box that you put sites in and some decision comes out.

Mrs. LINCOLN. Certainly.

Mr. MILLOY. You must go there, use your science, common sense, and figure out what needs to be done, and that is not happening now.

Mrs. LINCOLN. What are your recommendations in terms of groundwater remediation, especially in areas where you do have a tremendous amount of—basically swiss cheese is what I have. It is

a tremendous amount of water moving through a lot of underground caves, karst formations which look a lot like swiss cheese, and when it moves that rapidly it ends up in an area where it may not have originated.

My question becomes to you, how is that remediation, in your opinion, dealt with?

Mr. MILLOY. If that, indeed, is the case, then I think that that may be a site that needs immediate remediation, and that can be handled through a more scientific approach. The approach that I have recommended is what has been developed by the American Society for Testing and Materials. They will look at fate and transport of groundwaters. If contaminated groundwater is moving rapidly, there are provisions to deal with it, depending on the circumstances.

It is difficult to say without knowing a specific instance what should be done, but every site must be dealt with individually.

Mrs. LINCOLN. I represent a tremendously rural area, and a lot of them have private wells which obviously don't require consistent monitoring. There you have a situation where you have people taking well water without a consistent monitoring mechanism in place to protect them from problems that may evolve. How do we——

Mr. MILLOY. Are we assuming that their wells are contaminated or may be contaminated?

Mrs. LINCOLN. I don't want to assume anything, but hopefully what I can do is help them protect from getting contaminated.

Mr. MILLOY. Well, I think that, as I said before, you can go to a site, see what the circumstances are. If there are people whose wells may not be contaminated, but the contamination is moving, depending on the circumstances, maybe it makes sense to monitor their wells, maybe it makes sense to clean it up. It all depends on the particular site, the contaminant, the soil. There are a million considerations.

Mrs. LINCOLN. There are definitely a lot of factors, without a doubt.

Mr. MILLOY. No question about it.

Mrs. LINCOLN. I think I was just interested in understanding better what your proposals are in terms of that.

Mr. Viscusi, did you have anything?

Mr. VISCUSI. I just wanted to add. What we have done for our sites is, the sites on our sample, we have plotted the groundwater plume digitally, and we figured out which populations are above it, which are drawing the groundwater from it. What you can also do is rotate the plume or move the plume into sites such as yours, and see which populations you pick up. So these are the kinds of things that are feasible. Trying to figure out where the plumes are going to move is, at best, a very inexact science, and I don't think the experts know much more than you or I do about this.

Let me just also add, you would also want to add in nonuse values for the groundwater because the public also has a high value of groundwater contamination. They just don't like groundwater contaminated, even if they are not going to use it. The idea that the environment is being spoiled is offensive to a lot of people, and there is a substantial public willingness to pay for that benefit as well.

Mrs. LINCOLN. Thank you.

Thank you, Mr. Chairman.

Mr. OXLEY. The gentlelady's time has expired.

The gentleman from Michigan.

Mr. STUPAK. Mr. Chairman, I will pass. I just got in from Michigan, and so I only have the benefit of the testimony. I will pass on this panel.

Mr. OXLEY. Welcome back.

Mr. STUPAK. Thank you.

Mr. OXLEY. Okay.

We thank the first panel for your excellent testimony.

Mr. DINGELL. Mr. Chairman.

Mr. OXLEY. The gentleman from Michigan.

Mr. DINGELL. Could I be recognized just briefly, I have just a couple of things I would like to add to the discussion, if you please?

Mr. OXLEY. Without objection.

Mr. DINGELL. Thank you, Mr. Chairman.

Mr. Benton, I want to come back to this Rocky Mountain Arsenal because this committee has been interested in it for a long time. Just so we have the history of that place straight, the use of it was begun during World War II for the manufacture of weapons and particularly chemical weapons; isn't that so?

Mr. BENTON. That is correct, Mr. Dingell.

Mr. DINGELL. It is one of the most contaminated sites in North America; is it not?

Mr. BENTON. Mr. Dingell, the site is 27 square miles. The principal contamination at Rocky Mountain Arsenal is located in the central core area consisting of the former manufacturing and disposal sites. Within that area, there is very substantial contamination.

Mr. DINGELL. That goes into the groundwater?

Mr. BENTON. There has been contamination in the groundwater, both on the site and offsite.

Mr. DINGELL. And, in part, it relates to the way that disposal was done of the wastes where wastes were simply injected into the ground; isn't that right?

Mr. BENTON. At the time the Army was engaged in both its operations, and during the subsequent period for the operations of Shell Chemical Company, the effluent was delivered to the Army's waste disposal system which consisted initially of some unlined basins, evaporative basins, and finally waste deposited in so-called "Basin F" which was a lined basin. That was the established technology in the country of the day.

Mr. DINGELL. It also was injected in the ground, though, was it not?

Mr. BENTON. I think, Mr. Dingell, you are referring to the deep well disposal project that the Army engaged in back in the 1960's, a 12,000-foot deep well was dug, effluent was injected into that well. There was some suggestion that that may have caused some seismic disturbance in the area. That program was terminated, that well has been closed, and is no longer in use.

Mr. DINGELL. There also was a suggestion that some of these injections were coming up some distance away in a somewhat changed form; isn't that so?

Mr. BENTON. I believe not, Mr. Dingell. I think what you may be referring to is that there was evidence offsite early on that there was contamination originating at Rocky Mountain Arsenal in the groundwater that was being detected in agricultural areas downgradient, but not from the deep well itself.

Mr. DINGELL. Now, Mr. Chairman, I was looking, and I would like to direct this to Mr. Milloy.

Mr. Milloy, there has been considerable discussion here about the National Risk Protocol, and how it works or how it should work. Let me read you some language here. The language which says this: "The goal of the National Risk Protocol is to promote realistic estimates that neither minimize nor exaggerate the risks or potential risks posed by a facility at which hazardous substances have been disposed or otherwise come to be located."

Now, how does that sound to you?

Mr. MILLOY. If you can get it, that's great.

Mr. DINGELL. That was in last year's bill.

Mr. MILLOY. That's correct. The problem is with the implementation of it.

Mr. DINGELL. Well, if you write clear language, it is, I think, quite possible with the oversight of this committee and other people who are legitimately concerned with these matters, to see to it that the language is properly implemented.

The language goes on to say: The National Risk Protocol shall be developed and promulgated in accordance with sections 561 through 570 of title V, U.S. Code, to the extent that the Administrator deems appropriate. The National Risk Protocol establishes to the extent appropriate and practicable the following, standard exposure scenarios defining exposure pathways for a range of unrestricted and restricted land uses, standardized formulae or methodologies for a whole series of things, and it goes on through the bottom of page 179, 180, 181.

I would appreciate it if you would look at it and tell me whether you——

Mr. MILLOY. I have, and I would support anything that would produce realistic risk estimates at Superfund sites. My question is, what sort of protocol will be developed by EPA and how will it be enforced? Who will be the cop on the beat to make sure that EPA is producing realistic risk assessments? I don't think the committee can look at every risk assessment at every site. There are just only so many of you, and there are thousands of sites.

Mr. DINGELL. I have been harder on EPA, I think, than almost anybody on this committee, and I suspect harder than most people outside the committee.

But don't you think it makes good sense to say, well, we are going to have EPA, we are going to give them a proper statute, and then we are going to supervise them to see that they administer the law properly? Doesn't that make good sense to you?

Mr. MILLOY. Congressman, that sounds good, but I would say that Superfund has been operating for 15 years. It was reauthorized in 1986. It is not clear that it is working any better.

Mr. DINGELL. Mr. Milloy, I am not talking about using existing Superfund law. If you will recall, I was involved in the redrafting of the Superfund. I was highly critical, not only of the legislation, the efforts in the environmental, the behavior of EPA, and quite frankly the behavior of industry which didn't seem to give a damn about what we were doing on that particular legislation.

I warned at the time that the consequences of that kind of approach were going to visit a disaster upon us. Regrettably, I was correct because we wound up with a piece of legislation that has done nothing but spend money and create litigation.

Now we are trying to write something that makes sense, and I think it behooves you and everybody else who is concerned about this matter to not use the old law as the criterion for the behavior of EPA, or to assume that EPA is going to do the same kind of incompetent job that they did before.

We no longer, I am delighted to report to you, have Mr. Riley there to administer that Agency. And we look forward to the fact that the Agency will be better administered in the future. I think that you ought to direct your attention to that rather than to just sit there praying about the failure of the earlier statute or the incompetence of EPA. I am not a great defender of EPA, but EPA is entitled to better treatment than they are getting here today, and especially if we make the assumption that the Congress is going to write a more intelligent statute than we did last time.

Now, am I incorrect in any of those appreciations?

Mr. MILLOY. No, Mr. Dingell, I think you are correct, but to understand where Superfund must go, I think we must understand where we have been, and I think there is much you have to understand.

Mr. DINGELL. Well, my friend, I have been severely critical about Superfund, the language of it, the way it worked, the way it was drafted, the inattention of industry to it, the incompetence of EPA, the incompetence of the EPA Administrator, the fact that a lot of my colleagues have sought to make politics out of this, and the legislation we had agreed upon last year was killed in a political maneuver.

Mr. OXLEY. The gentleman's time has expired.

Mr. DINGELL. I thank you, Mr. Chairman.

Mr. OXLEY. I would like to dismiss this panel so that we can get on to the second panel unless someone feels compelled?

Mr. TAUZIN. I feel compelled.

Mr. OXLEY. I figured it.

Mr. TAUZIN. Just one short question.

Mr. OXLEY. The gentleman from Louisiana.

Mr. TAUZIN. Mr. Milloy, is it going to help us to rewrite the law to require real scientific-based risk assessment if, in the context of that language we also give the director of EPA, the Administrator of EPA, the right to use it only if they feel it is appropriate?

Mr. MILLOY. No, there must be an enforcement mechanism. There must be a way to ensure that EPA uses good science. I think the judicial review in H.R. 1022 is a good way to do that.

Mr. TAUZIN. Thank you, sir.

Mr. OXLEY. We thank the panel, and the first panel is dismissed.

The subcommittee will stand in recess for 5 minutes until we can bring the second panel up.

[Brief recess.]

Mr. OXLEY. The subcommittee will reconvene and we will call our second panel.

We welcome our next panel. First is Dr. Barry Johnson for the Agency for the Toxic Substance and Disease Registry with the Department of Health and Human Services, and our second panelist is Mr. Tim Fields from the Office of Solid Waste and Emergency Response with EPA.

Gentlemen, we welcome you. Dr. Johnson, we will start with your testimony.

STATEMENTS OF BARRY L. JOHNSON, ASSISTANT ADMINISTRATOR, AGENCY FOR TOXIC SUBSTANCES AND DISEASE REGISTRY, DEPARTMENT OF HEALTH AND HUMAN SERVICES; AND TIMOTHY FIELDS, JR., DEPUTY ASSISTANT ADMINISTRATOR, OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, ENVIRONMENTAL PROTECTION AGENCY

Mr. JOHNSON. Thank you, Mr. Chairman. We appreciate the opportunity to testify on the public health provisions of CERCLA.

As you know, ATSDR was created by CERCLA. We, therefore, work closely with EPA and State and local health agencies in the conduct of our health-based responsibilities. ATSDR is not a regulatory agency. We advise EPA and States on the health hazards associated with Superfund sites, but any primary risk management actions rest with EPA and others.

Our key partners are State and local health departments. One main purpose of our support to State and local health departments is to enhance their capacity to respond to community health concerns. We currently are funding 30 State health departments for them to conduct health assessments of communities and other health-related activities in Superfund areas.

My written testimony today describes ATSDR's principal CERCLA responsibilities, but, in brief, CERCLA mandates of ATSDR a broad, national program of Superfund site health assessments, health investigations, health surveillance and registries, applied research, emergency response, health education and toxicological database development.

The following statements capsulize our findings to date. First, although epidemiologic findings are still unfolding, when evaluated in aggregate, proximity to hazardous waste sites seems to be associated with a small to moderate increased risk of some kinds of birth defects and, less well documented, some specific cancers.

Second, health investigations of communities around some individual hazardous waste sites have found increases in the risk of birth defects, neurotoxic disorders, dermatitis, cardiovascular abnormalities, respiratory dysfunction and immune disorders.

Third, site remediation doesn't necessarily resolve all public health concerns. An increasing body of scientific evidence indicates that past exposures to hazardous substances can cause latent adverse health effects.

Four, conservatively about 60 percent of EPA National Priority List sites assessed by ATSDR in fiscal years 1993 and 1994 were

found to have completed exposure pathways. Historically, about 40 percent of some 1,309 sites assessed by ATSDR had completed exposure pathways.

Five, of the 136 sites for which public health assessments were conducted and advisories were issued in fiscal years 1993 and 1994, ATSDR classified 54 percent of the sites as health hazards. Historically, 23 percent of approximately 1,700 public health assessments for more than 1,300 Superfund sites represented a health hazard according to ATSDR's criteria. Now, both these figures should be cited with caution because of the limitations in our contamination and human exposure databases.

Six, from data reported by 11 State health departments for the year 1993, from almost 4,000 emergency events—for example, industrial accidents or transportation mishaps—where hazardous substances were released, there were 16 deaths, 4,063 separate injuries sustained by 2,269 victims, and approximately 500 evaluations of people.

Seven, serious gaps exist in scientific knowledge about the toxicity, bioavailability, human exposure and human health effects of individual hazardous substances and mixtures of substances released from Superfund sites and during emergency releases. There are key data gaps needed to be filled in order to reduce uncertainties in site risk assessments and community health assessments.

Eight, and last, physicians and other health care providers in communities around Superfund sites need training and technical assistance in matters of hazardous substances.

Mr. Chairman, in closing, communities around Superfund sites continue to express strong concern about the potential impact of sites on individuals' health. Since 1991, our Agency has had direct contact with over 300,000 people who expressed health concerns about Superfund sites and hazardous substances. The health findings reported in our testimony today indicate to ATSDR the need to protect the public against uncontrolled released of hazardous substances. These health findings also have import, we believe, for risk management actions taken by Federal and State regulatory agencies.

We recommend that Congress look carefully at CERCLA's public health provisions, and strengthen them where needed. In particular, the President's Reinvention of Government Plan would merge ATSDR with its sister Agency, the Centers for Disease Control and Prevention. This merger would reduce costs of administering two agencies when technical resources could be more easily shared between the two. Our Department will propose legislation to effect this merger, and more specific details will be provided to Congress at that time.

I look forward to your questions. Thank you.

[The prepared statement of Barry L. Johnson follows:]

PREPARED STATEMENT OF BARRY L. JOHNSON, PH.D., ASSISTANT ADMINISTRATOR, AGENCY FOR TOXIC SUBSTANCES AND DISEASE REGISTRY, PUBLIC HEALTH SERVICE, DEPARTMENT OF HEALTH AND HUMAN SERVICES

Good morning. I am Barry Johnson, Ph.D., Assistant Administrator of the Agency for Toxic Substances and Disease Registry (ATSDR). I have served as Assistant Administrator since 1986, and my professional background is in toxicology and environmental health. I welcome this opportunity to brief you on ATSDR's public health

actions and findings under the Comprehensive Environmental Response, Compensation, and Liability Act, as amended (CERCLA, or Superfund).

My testimony today will describe ATSDR's principal CERCLA responsibilities and our key administrative relationships with the Environmental Protection Agency (EPA). Our testimony is organized around what we, and others, have found about associations between uncontrolled releases of hazardous substances and the impact on human health. For the purposes of this testimony, we have given emphasis to uncontrolled hazardous waste sites.

CERCLA mandates of ATSDR a broad, national program of Superfund site health assessments, health investigations, surveillance and registries, applied research, emergency response, health education, and toxicological database development. Our work is conducted in close collaboration with the Environmental Protection Agency (EPA), state health departments, and local health agencies.

As preface, the American public remains quite concerned about the potential impacts of Superfund sites on public health. Since 1991, ATSDR has received more than 4,000 requests for assistance from concerned citizens potentially affected by more than 1,000 sites. Additionally, since February first of this year, we have received more than 45,000 requests for information via the Internet. ATSDR has had direct contact since 1991 with more than 300,000 citizens concerned about Superfund and hazardous substances issues through our public meetings and other site-specific activities.

The following statements capsulize our findings to date related to the impact on public health of hazardous waste sites and emergencies related to unplanned releases of hazardous substances:

- Although epidemiologic findings are still unfolding, *when evaluated in aggregate*, (i.e., by combining health data from many Superfund sites), proximity to hazardous waste sites seems to be associated with a small to moderate increased risk of some kinds of birth defects and, less well documented, some specific cancers.
- Health investigations of communities around *some individual* hazardous waste sites have found increases in the risk of birth defects, neurotoxic disorders, dermatitis, leukemia, cardiovascular abnormalities, respiratory dysfunction, and immune disorders.
- Site remediation doesn't necessarily resolve all public health concerns. An increasing body of scientific evidence indicates that past exposures to hazardous substances can cause latent adverse health effects. Recent findings from the ATSDR exposure registry of approximately 5,000 persons exposed in the past to trichloroethylene (TCE) in drinking water showed adult registrants reporting elevated rates of stroke, liver problems, anemia, diabetes, kidney disease, and skin rashes; speech and hearing impairments were increased in young children. These findings highlight the need for continuing surveillance of populations exposed to hazard substances.
- From what we've learned about 1,309 sites assessed by ATSDR from 1987 through December 1994, completed exposure pathways (i.e., people were in the path of substances released from sites) were identified at about 40% of sites. About 60% of EPA National Priorities List (NPL) sites assessed by ATSDR in fiscal years 1993 and 1994 were found to have completed exposure pathways.
- ATSDR has issued 21 major health advisories on sites considered imminent and urgent threats to public health and those advisories have led to removal actions under EPA's authorities. Seven sites have been placed on the NPL because ATSDR issued a health advisory.
- Of the 136 sites for which public health assessments were conducted and advisories were issued in fiscal years 1993 and 1994, ATSDR classified 54% as health hazards. Ten percent of sites were classified as no *apparent* public health hazard, 2% of sites were classified as no public health hazard, and 34% could not be determined. Historically, 23% of 1,719 public health assessments for more than 1,300 Superfund sites represented a health hazard, according to ATSDR's criteria. These figures should be cited with caution, however, because of limitations in our contaminant and human exposure databases.
- ATSDR has completed an analysis of the demographic characteristics of populations around 93% of the current 1,286 NPL sites. Our data, which are based on 1990 census information, indicate that about 11 million people, whose health is potentially affected by exposure to hazardous substances at the site, reside within 1 mile of these sites' borders.
- At more than 50% of sites where people are known to be exposed to a contaminant from the site, lead or trichloroethylene, or both, were identified as hazards. At more than one third of these sites, levels of concern of chromium, benzene, arsenic, tetrachloroethylene, cadmium, methylene chloride, toluene, or 1,1,1-

trichloroethane were also found. All but the last two of these substances are known carcinogens or are reasonably anticipated to be carcinogens, according to EPA.

- 60% of ATSDR's public health assessments include recommendations to EPA and states to interdict or reduce current, ongoing exposures to hazardous substances.
- From data reported by 11 state health departments for 1993 from almost 4,000 emergency events where hazardous substances were released, there were 16 deaths, 4,063 separate injuries sustained by 2,269 victims, and 496 evacuations of people. The most frequent victims were responders to the event and employees working at a facility.
- Serious gaps exist in scientific knowledge about the toxicity, bioavailability, exposure, and human health effects of individual hazardous substances and mixtures of substances released from Superfund sites and during emergency releases. There is a particular need for data on levels of exposure to hazardous substances in community populations.
- Physicians and other health care providers in communities around Superfund sites continue to express a significant need for training and technical assistance in matters of hazardous substances.

Relationship with EPA and States

ATSDR was created by CERCLA. We therefore work closely with EPA and states in the conduct of our health-based responsibilities. ATSDR is not a regulatory agency. We advise EPA and states on health hazards associated with Superfund sites, but any risk management actions rest with EPA and others. For example, we can advise EPA to provide alternate drinking water to a community, but any actual provision of water is up to EPA's determination.

ATSDR interacts with EPA in several ways. Our public health advisories inform EPA of imminent hazards to public health. There have been 21 public health advisories to date. In our experience, EPA has acted promptly on every advisory. We also provide a large amount of consultation on a daily basis to EPA regions on site-specific matters of human health. When requested, we provide health-based advice on matters of site remediation. Over the last 3 years, ATSDR has received approximately 3,000 requests from the EPA regions.

One of ATSDR's most substantive relationships with EPA concerns the conduct of ATSDR's public health assessments of NPL sites and sites where ATSDR has been petitioned to conduct a health assessment. For the NPL sites, ATSDR uses Remedial Investigation environmental contamination data collected by EPA as one key database for ATSDR's site-specific health assessments. ATSDR's health assessment reports are provided to EPA, states, and local communities. These documents state the level of human health hazard assessed by ATSDR. Each report contains individual recommendations to EPA, states/tribes, and ATSDR itself. ATSDR monitors the outcome of each report's recommendations. By our count, EPA implements about 95% of our recommendations.

For some sites, ATSDR measures exposure levels of site-related toxicants in community residents. This exposure information is provided to EPA for use in any removal or other risk management action.

Other key partners are state and local health departments. One main purpose of our support to state and local health departments is to improve their capacity to respond to community health concerns. I refer to communities around Superfund sites and other areas of environmental contamination. These communities' legitimate health concerns need the coordinated response of government at all levels.

In 1986 when Congress reauthorized Superfund, it was clear that they strengthened the statute's health section, and it was equally clear to ATSDR that Congress envisioned a partnership between states and ATSDR in implementing these health provisions. In 1987, the Agency committed itself to a goal of building or enhancing state health departments, capacity in environmental health. From fiscal year 1987 through 1994, we have provided about $62,600,000 in funds to 36 states through a series of cooperative agreement programs. This figure represents approximately 18% of ATSDR's total budget during this period—a substantial figure, given other budgetary demands on the Agency.

I'll now discuss details of ATSDR's CERCLA mandates and key findings.

Public Health Assessments

Since 1986, the Agency has completed more than 1,700 public health assessments of communities around Superfund sites. The 1986 CERCLA amendments require that ATSDR: a) conduct, within 1 year, a public health assessment of every site placed, or proposed for placement, on the NPL, and b) respond to petitions for

health assessments from individuals. The NPL currently numbers 1,296 sites, including 162 federal government sites or facilities.

Public health assessments are ATSDR's principal device for identifying communities that need public health followup. Our public health assessments are conducted using environmental contamination data provided primarily by EPA; health outcome data (e.g., birth defects), which states supply when available; and community-reported health concerns.

Many of ATSDR's public health assessments are conducted, after appropriate training by ATSDR, by state health departments under cooperative agreements with ATSDR. Currently, ATSDR funds 22 states (encompassing approximately 80% of all NPL sites) to draft public health assessments that are then reviewed and approved by ATSDR staff.

The Agency's public health assessments currently place sites in specific categories of public health concern. Data from the 136 sites assessed in fiscal years 1993 and 1994 indicate that about 5% of sites presented an Imminent and Urgent Public Health Hazard. ATSDR classified 49% of sites as Public Health Hazards, 34% as Indeterminate (sites where key environmental data are lacking to adequately determine if persons are being exposed), 10% as No Apparent Public Health Hazard (sites where past and current exposures have been indicated but where current data indicate those exposures are no longer of public health concern), and 2% as No Public-Health Hazard. Ranking and classification of sites are not precise sciences; as databases have improved in quality, so has the ranking and categorization of sites.

ATSDR has compiled the information from its 1,700 public health assessments, 2,500 consultations, and other documents into a unique integrated database, called HazDat. ATSDR has used this database to identify a number of characteristics about Superfund NPL sites. An analysis of 1,309 sites assessed through December 1994 found that pathways of human exposure to hazardous substances were completed at about 40% of sites. For fiscal years 1993 and 1994, this figure increased to 60%, primarily because of improvements in contaminant databases and other types of information.

ATSDR also has been able to make important observations about the types of contaminants released from Superfund sites; the environmental media that are most affected by those contaminants; and the pathways by which people are exposed to contaminants. The top 10 contaminants of concern identified at sites with a completed exposure pathway were these: lead (59% of sites), trichloroethylene (TCE) (53%), chromium (47%), benzene (46%), arsenic (45%), tetrachloroethylene (PCE) (41%), cadmium (39%), toluene (39%), 1,1,1-trichloroethane (32%), and methylene chloride (31%) . All but two of these substances are known carcinogens or are reasonably anticipated to be carcinogens.

Contaminants released from sites were most frequently identified in groundwater, followed by subsurface soil, sediment, and surface water.

Using ATSDR's HazDat database, we have found that a hundred or more different toxic chemicals can be found at a single waste site. These chemicals can be found in widely varying combinations in water, soil, and air, and some of the combinations may be much more hazardous than any of the individual chemicals. Therefore, ATSDR is examining the combinations of chemicals that exist at waste sites to identify chemical mixtures that should be studied. As an example of what we have learned from this analysis, we have found that soil with levels of concern for copper, chromium, arsenic, cadmium, or mercury almost always also has lead in high levels (more than 80% of the time). This kind of information is important for designing human epidemiologic investigations and relevant laboratory studies. The National Research Council, using EPA data, estimated in 1991 that about 41 million people reside within 4-mile radii of 1,134 NPL sites. ATSDR has completed an analysis of the demographic characteristics of persons residing around 93% of the current 1,296 NPL sites. We find that 11 million people live within 1 mile of these sites' borders. These people are potentially at risk from exposure to hazardous substances at these sites.

In fiscal years 1993 and 1994, sufficient data were available to indicate the need for health investigations at about 35% of sites, including sites where concern was for current or past exposures to hazardous substances released from the sites. The investigations are examining human exposure and health effects. ATSDR has a backlog of health followups; approximately 15% of followups can currently be completed each year.

As I mentioned, ATSDR can be petitioned by an individual to conduct a public health assessment of a site. The Agency has received 394 petitions to date, representing 323 individual sites. An average of 80 petitions are received annually. We are currently accepting about 75% of petitions for conduct of public health assessments or health consultations. About 55% of petitions come from individual or com-

munity groups; about 8% come from members of Congress. The large number of petitions received annually is a demanding workload for ATSDR; *to put these 80 into perspective, EPA added 23 sites to the NPL in 1991, 30 in 1992.*

Health Effects Investigations

Another of the CERCLA mandates requires that we conduct studies of the adverse health effects of exposure to hazardous substances from waste sites. Epidemiologic studies conducted by ATSDR, state health departments, and academic institutions are of two types: a) studies that examine the health of persons around individual sites and b) studies that combine populations around sites and their data for aggregate analysis.

Health investigations help identify persons for whom exposures can be interdicted, add important information about risk factors for diseases and illnesses, identify vulnerable populations on whom to focus prevention activities, determine relationships between exposure and adverse health effects, and help determine or evaluate measures to prevent or mitigate adverse health conditions. Findings from human health studies are also significant material for inclusion in site-specific risk assessments.

Aggregated Site Studies

Investigating the broad picture of the association between hazardous waste sites and public health impact requires combining site populations with common environmental characteristics, thereby increasing the size of the human populations investigated. This aggregating of sites has been used as an investigative method by researchers examining the association between cancer and birth defects rates in areas around hazardous waste sites.

Two sets of investigators have reported an increased frequency of cancers in counties surrounding hazardous waste sites. In 1983, the New Jersey Health Department reported that age-adjusted gastrointestinal (GI) cancer mortality rates (all sites combined) were higher in 20 of New Jersey's 21 counties than national rates. Within specific sex and race groups, cancer mortality rates in the state during the period 1968-1977 significantly[1] exceeded national rates for cancers of the esophagus, stomach, colon, and rectum. The environmental variables most frequently associated with GI cancer mortality rates were population density, degree of urbanization, and presence of toxic waste disposal sites. Similarly, an EPA study was conducted of 593 hazardous waste sites in 339 U.S. counties of 49 states where analytic evidence showed contaminated groundwater as the sole source of drinking water supply. For each identified county, age-adjusted, site-specific cancer mortality rates for 13 major cancer sites (anatomic) were extracted from U.S. Cancer Mortality and Trends (1950-1979) for white males and females during the decade 1970-1979. Statistically significant associations between excess deaths and all counties with hazardous waste sites, when compared to all counties without hazardous waste sites, were shown for cancers of the lung, bladder, esophagus, stomach, large intestine, and rectum for white males; and for cancers of the lung, breast, bladder, stomach, large intestine, and rectum for white females. Neither the EPA nor the New Jersey studies reported any data bearing on the levels of exposure of these residents, which is a significant limitation.

A New York State Health Department study examined the association between congenital malformations in children and maternal proximity to hazardous waste sites in the state. The study included data for 9,313 newborns with congenital malformations, as recorded in the New York State Congenital Malformations Registry, and 17,802 healthy comparison children. A total of 590 hazardous waste sites in 20 New York counties were selected for analysis of the incidence of malformations. (Waste sites in New York City were excluded, given what were presumed unique sociodemographic and geographic characteristics compared with the rest of the state.) An "exposure risk index" was created for each respondent within a 1-mile radius of the birth residence. Through statistical analysis, the investigators controlled for several possible confounding variables, including maternal age, race, education, complications during pregnancy, birth weight, length of gestation, and sex of child. It is important to note that other possible confounding factors, such as smoking and alcohol history, maternal and paternal occupational exposures, and maternal nutritional status were not evaluated because of lack of data. Results indicated that maternal proximity to hazardous waste sites may carry an additional risk of approximately 12% of bearing children with congenital malformations. Higher malformation

[1]The word significantly is used to mean statistical significance, according to some test used by the investigator to assess the probability that results from the study could have occurred due to chance.

rates were associated with both a higher exposure risk (63% increase in risk) and documentation of off-site chemical leaks (17% increased risk). These results are the subject of follow-up investigation by ATSDR and the New York State Health Department.

ATSDR funded an additional birth defects study by the California Department of Health Services. The department conducted a study investigating the relationship between maternal residence and the presence of hazardous waste sites for the risk of congenital malformations. The study evaluated births between 1983 and 1985; 5,617 births with congenital malformations were evaluated. The study concluded that maternal residence-at the time of the child's birth-in a census tract with a hazardous waste site, significantly increased the risk of giving birth to an infant with malformations of the heart and circulatory system.

Studies by ATSDR and other researchers indicate that adverse reproductive outcomes may be related to consumption of contaminated drinking water or living in proximity to hazardous waste sites. For example, birth defects and developmental disabilities were evaluated by ATSDR-funded surveillance systems in Iowa, New Jersey, and Washington. These states used birth defects registries and birth records to assess populations potentially exposed to hazardous substances in specific geographic areas. In Iowa, investigators found an association between herbicides in public drinking water and urogenital and limb reduction birth defects and small babies for their gestational age. In New Jersey, investigators found links between solvents in public drinking water and excess small babies for their gestational age, and cardiac, oral clefts, and central nervous system birth defects. Data on birth defects from these state surveillance systems will be the subject of additional epidemiologic studies to clarify any associations with hazardous waste sites.

ATSDR has adopted the approach of aggregating sites for the purpose of health evaluation. This approach was outlined in a 1992 report to Congress entitled, *The Feasibility and Value of Performing Multisite Epidemiologic Studies for Superfund Sites.* An example of this approach is an ATSDR study conducted in four separate geographic areas near mining and smelting sites in Illinois, Kansas, Missouri, and Pennsylvania involving more than 2,200 people. It was found that the blood lead levels in children living near the sites were strongly associated with soil lead levels. This demonstrates that the lead contamination in soil was an important contributor to the lead in children's blood. As you know, lead has been shown to be particularly harmful to the developing brain and nervous system of young children. Efforts are underway to reduce children's exposure to lead.

Adverse health effects in persons who in the past were exposed to hazardous substances are suggested by findings from ATSDR's National Exposure Registry. Included in the registry are approximately 5,000 individuals with documented exposure to trichlorethylene (TCE). The 5,000 registrants come from 15 sites in Michigan, Indiana, Illinois, Arizona and Pennsylvania; 11 of the sites are on the NPL. TCE levels in drinking water ranged from 1 part per billion (ppb) to 19,380 ppb. (The Maximum Contaminant Level for TCE is 5 ppb.) Exposure durations ranged up to 18 years. For essentially all persons on the registry, TCE exposure has stopped following provision of uncontaminated water. Registrants report (through a structured health survey) more health problems compared to respondents to other national health surveys. Some of these problems were reported only by males, some only by females, and some only by specific age groups. The health problems reported in excess of those reported by the general U.S. population included anemia and other blood disorders, diabetes, hearing impairments, kidney disease, skin rashes, speech impairments, stroke, liver problems and urinary tract disorders. Some of the health problems reported by registrants are consistent with the toxicology of TCE. However, caution must be exercised when interpreting these health findings. Medical validation studies currently are being conducted of a sample of the 5,000 registry cohort.

Health Studies at Individual Sites

A considerable number of studies have been conducted by Federal, State, and local governments, universities, and private investigators regarding health effects in communities around individual hazardous waste sites. Some recently completed site investigations conducted by ATSDR or state health departments with ATSDR support reported the following results:

Respiratory Illness

- At the Brio NPL site in Friendswood, Texas, a study of 744 current or former residents showed increased reports of respiratory and skin problems.

• A 1995 study among residents of Forest City and Glover, Missouri, who lived near operating smelters showed an increase in reports of respiratory problems and decreased pulmonary function, especially among nonsmoking women.

• Findings from an ATSDR study of residents living near a former hazardous waste incinerator in Caldwell County, North Carolina, show an increased prevalence of respiratory disease in the target population. Follow-up biomarker testing that found decreased pulmonary function among residents living near the site verifies these symptoms.

Cancer and Immune System Function

• Blood samples from approximately 6,000 persons who live near 10 hazardous waste sites showed an increased rate of an unusual production of abnormal blood cells that has been associated with chronic lymphocytic leukemia. Thus far these observations have been predominantly among people who were potentially exposed to volatile organic compounds.

• Findings from an ATSDR cross-sectional, symptom- and disease-prevalence study of 700 persons in Tucson, Arizona, exposed to volatile organic compounds in drinking water reveal an increased prevalence of the debilitating disease erythematosus lupus.

Birth Defects and Reproductive Disorders

• A study among Texarkana, Texas, residents showed that persons living near an abandoned wood treatment facility reported more difficulty becoming pregnant and had fewer pregnancies than a comparison population not living near the site.

• In an ATSDR-funded study, investigators reported the increased occurrence of birth defects in the children of women living near 600 hazardous waste sites in California. Analysis shows that children of women living near sites where exposure to the solvents toluene and xylene was likely had greater than twice the typical rate of neural tube birth defects, such as spina bifida and anencephaly.

• Findings from an ATSDR-funded study of minority women living near sites in California where exposure to semivolatile organic chemicals, pesticides, and heavy metals was likely shows elevated rates of limb reduction defects, central nervous system defects, and heart defects in their children compared to the rates of such defects in the children of minority women not living near hazardous waste sites.

• Near the Lipari NPL site in New Jersey, a study by the New Jersey State Health Department (funded by ATSDR) showed babies that were small for their gestational age born to women living near the site, particularly during the years 1970-1975, when hazardous substance releases peaked. These differences abated when site releases were contained.

Neurologic Problems

• An ATSDR study of residents living near a former hazardous waste incinerator in Caldwell County, North Carolina, found increased neurologic symptoms in residents living near the incinerator site.

• When compared with the expected rates of illness among the U.S. population, children from ATSDR's National Exposure Registry who were exposed to trichloroethylene through contaminated drinking water had higher rates of speech and hearing impairment.

Many other studies are negative in the sense that statistically significant increases in adverse health effects *were not* found. Although such findings may represent the true health status of the communities because of limited or no exposure to hazardous substances, the negative findings may also be the result of inadequate sample sizes, inadequate information about exposure to hazardous substances, poor selection of sites studied, or inappropriate health effects studied for the toxicology of the specific substances found at a given waste site.

A comprehensive review of the published literature on the public health implications of hazardous waste was conducted in 1991 by the National Research Council. This review concluded: "In spite of the complex limitations of epidemiologic studies of hazardous-waste sites, several investigations at specific sites have documented a variety of symptoms of ill health in exposed persons, including low birth weight, cardiac anomalies, headache, fatigue, and a constellation of neurobehavioral problems. It is less clear whether outcomes with a long delay between exposure and disease also have occurred, because of complex methodological problems in assessing these outcomes. However, some studies have detected excesses of cancer in residents exposed to compounds, such as those that occur at hazardous waste sites." A more recent study of the scientific literature concerning hazardous waste and human health effects was sponsored by the Chemical Manufacturers Association (CMA) this year. That study identifies a number of shortcomings in the studies reviewed. The prin-

cipal shortcoming identified by the CMA reviewers was too limited knowledge about levels of exposure of community residents to substances released from waste sites.

ATSDR's experience shows that adverse health effects of hazardous substances released from sites have occurred in some communities. The prevalence of adverse effects is unknown because of limitations in toxicologic knowledge, environmental databases, and environmental epidemiology practices.

Health Studies of Remediation Workers

In addition to concern for the health of communities potentially affected by the release of substances from hazardous waste sites, care must be exercised that the workers who remediate (i.e., clean up) the sites are not harmed by their work. The removal of soil or water contaminated with toxic substances clearly presents the potential for adversely affecting the health of cleanup workers if the necessary precautions are not taken.

As an industry, cleanup of hazardous waste sites is relatively new in the United States, but one that involves large numbers of workers. Given the recent introduction of site-specific work, there is only a very limited scientific database on any potential health effects associated with such work. According to one source, clinical and research findings from clinical centers performing health surveillance examinations on hazardous waste workers have not shown remarkable health abnormalities related to the workers, activities. From a public health perspective, this is a very desirable outcome. However, the investigators caution that the lack of any health problems in hazardous waste workers may be due to the fact that most of the workers examined had performed feasibility (i.e., inspection and assessment) work, not actual remediation of sites.

I am pleased to note that ATSDR and the Health and Safety Fund, which is a joint project between the Laborers International Union of North America and site remediation contractors, have jointly developed a health surveillance program for hazardous waste remediation workers. This system will eventually contain medical information on about 5,000 remediation workers. The data will be evaluated periodically for any evidence of adverse health effects in groups of workers.

Exposure Studies

Concern for public health effects of hazardous substances occurs when exposure in humans exceeds safe levels. A series of studies conducted by ATSDR has documented human exposure to contaminants at some Superfund sites, but no exposure at other sites. This human exposure information is critical, and can best be verified through biologic sampling.

Examples of ATSDR-conducted studies that document human exposure to contaminants from waste sites include these:

- The importance, and difficulty, of relating environmental contamination levels with human exposure levels is exemplified by the work ATSDR has done in conjunction with the Centers for Disease Control and Prevention (CDC) and the Panhandle Health District in Idaho to conduct blood lead surveillance of children exposed to lead from a smelter. The smelter closed in 1982 and the area around it is an NPL site. Lead in soil and dust were the principal exposure routes. Through surveillance and intervention efforts, children's mean blood levels have declined steadily since 1974. However, in 1994, blood lead levels in about 17% of children still exceeded 10 μg/dL. Efforts are ongoing to reduce all children's blood lead levels to below 10 μg/Dl, the current CDC action level for lead.
- A study of the Mohawk Tribe in New York documented that women who consumed local fish from polychlorinated biphenyl (PCB)-contaminated waters had significantly higher concentrations of PCBs in their breast milk.
- In Fond du Lac, Minnesota, Native Americans who consumed fish from water contaminated with mercury were found to have higher levels of mercury in their blood than people who did not consume fish.
- Exposure studies conducted in Park City, Utah, among residents near Prospector Square mine tailings and by the New Mexico Department of Health among residents near the Billing Mine Superfund site in Socorro, found higher blood lead levels in persons living near the site. Although the mean blood lead levels were less than 10 μg/dl, these studies once again demonstrate that lead in soil does constitute exposure risks for children.

Examples of ATSDR-conducted studies that do not document human exposure to contaminants from waste sites include these:

- The results of biologic testing of residents living near the ASARCO Smelter site in Everett, Washington, showed that the vast majority of participants in the study did not have current exposure to arsenic. This study, done in cooperation with the Washington State Department of Ecology and the EPA, supported the conclusion

that some of the interim actions for reducing exposure at the site had been effective, and that relocation of residents was unnecessary.

- An ATSDR study of human exposure to PCBs in Monroe County, Indiana, found that in spite of the potential for exposure to PCB-contaminated media, the results of their serum PCB tests showed that individuals living in the community were generally not at risk of current exposure to PCBs.
- A study of people who were exposed to contaminated drinking water in communities surrounding the Rocky Mountain Arsenal NPL site in Colorado showed no significant increases in levels of mercury and arsenic in urine.

The documentation of human levels of exposure to hazardous substances released from sites remains a high priority with ATSDR. Through collaborative efforts with the Centers for Disease Control and Prevention, laboratory methods have been developed to measure 37 volatile organic compounds in blood. Moreover, we have population-based baseline exposure data for many of these same substances. These methods are being utilized by ATSDR and states to determine levels of exposure to hazardous substances. These data will make a significant contribution to improving site-specific risk assessments and public health assessments.

Emergency Response and Consultations

I turn now to what we have learned about the other type of site addressed under Superfund—the emergency release of hazardous substances. ATSDR has implemented an active state-based hazardous substances emergency events surveillance system to describe the public health consequences associated with hazardous substance releases. As a result of our activities, the ability of participating states to respond to an emergency involving hazardous substances has been significantly improved.

Fourteen states[2] are collecting data on the nature and impact of emergency releases of hazardous substances. Information reported by 11 of these states on nearly 4,000 events in 1993 indicates the following trends:

- 12% of all emergency events involving exposure to hazardous substances resulted in injuries.
- 4,063 separate injuries (including 16 deaths) were sustained by 2,269 victims.
- The most frequently reported injuries were respiratory irritation, eye irritation, nausea, and headache, followed by chemical burns and trauma. The most frequent victims were responders to the event and employees working at a facility.
- 496 emergency events required the evacuation of people living nearby.

Besides on-site emergency responses, ATSDR may prepare a health consultation or provide technical assistance in response to requests from EPA, states, or local agencies for information about health risks posed by a specific site, chemical release, or hazardous material. Health consultations can be written or oral; they provide a site-specific answer to a specific question. Consultations are also timely; an oral consultation may be provided on the same day a request is received. Approximately 43% of ATSDR's emergency event consultations provided medical guidance and treatment information for requestors.

A special kind of health consultation is the Public Health Advisory. It is a statement of concern from the ATSDR Administrator to the EPA Administrator. ATSDR has issued 21 public health advisories, leading to placement of 7 sites on the NPL.

As examples of health advisories, in November 1990, ATSDR issued a public health advisory informing EPA, the Navajo Nation, the Indian Health Service, and other federal and New Mexico state agencies of a potential significant environmental hazard to human health on Navajo land near Bluewater, New Mexico. ATSDR was concerned that the presence of uranium-containing radioactive mine wastes, areas potentially contaminated with heavy metals, and many physical hazards could result in adverse human health effects in residents of the areas. Potentially affected persons included 25 individuals in 2 extended families living in the immediate vicinity and approximately 100 additional persons within a 3-mile radius. As a result of this public health advisory, EPA completed an emergency removal of uranium-containing waste ore from the site, reducing radiation exposure by about 80%.

As a second example, in 1991, ATSDR, in support of EPA, issued a public health advisory on a potential significant environmental hazard to human health in the vicinity of Austin Avenue, Lansdowne, Pennsylvania. The contaminants of concern included radium, radon, and asbestos in a warehouse and residence. In conjunction with the release of the public health advisory, EPA, at the advice of ATSDR, relocated two families and initiated whole body radiation counts on them to determine

[2] Alabama, Colorado, Iowa, Minnesota, Mississippi, Missouri, New Hampshire, New York. North Carolina, Oregon, Rhode Island, Texas, Washington, Wisconsin

if they had been internally contaminated by radium at the sites. As a result of this public health advisory, EPA surveyed an area extending in a 2-mile radius from the Austin Avenue site (encompassing more than 12 square miles of metropolitan Philadelphia, Pennsylvania) and identified 21 additional sites with elevated radiation readings. In 1993, ATSDR issued a public health advisory concerning an area of Stratford, Connecticut. City and state authorities had found widespread contamination of school play areas and residential properties because contaminated soil had been used as fill material. The contaminated soils contained large concentrations of lead, PCBS, and asbestos. ATSDR, working with EPA and state and local health and environmental agencies, implemented a number of public health interventions in 1994. These included a voluntary blood lead testing program, in-home dust sampling, physician education on hazardous substances, and EPA's proposed placement of the Stratford site on the NPL.

Toxicological Databases and Data Gaps

The 1986 CERCLA amendments [§ 104 (i) (2)] require ATSDR and EPA to jointly rank, in order of health importance, hazardous substances released from waste sites. The agencies have agreed on a list of 275 Superfund Priority Hazardous Substances. The first 10 substances on the list are lead, arsenic, mercury, vinyl chloride, benzene, cadmium, PCBS, chloroform, benzo(a)pyrene, and trichloroethylene.

ATSDR is directed by CERCLA [§ 104(i)(3)] to prepare a Toxicological Profile for each Priority Hazardous Substance. We have developed 200 profiles to date; these profiles are up-to-date compilations of all that is known about the health effects of these substances.

These profiles also identify key data gaps in scientific knowledge about hazardous substances. For example, exposure to what levels of mercury will result in an acute health effect? Does drinking benzene-contaminated water cause birth defects? Does eating fish contaminated with PCBs cause illness? Does long-term exposure to zinc cause cancer?

As directed by CERCLA [§ 104(i)(5)], ATSDR, in cooperation with EPA and the National Toxicology Program must evaluate the adequacy of scientific data for each of the 275 prioritized substances. Key gaps in scientific knowledge are to be filled through referral to EPA's authorities under the Toxic Substances Control Act and other mechanisms. The 117 key data gaps for the first 38 substances on the Priority List of Hazardous Substances were published in 1992. CERCLA directs that ATSDR work with EPA, National Toxicology Program, and industry to assure the initiation of applied research to fill identified data gaps. ATSDR has referred 60 key data gaps to EPA for handling under its Toxic Substances Control Act authorities. Some key data gaps are being filled by funding from ATSDR, as directed by Congress, through research grants to academic institutions in the Association of Minority Health Professions Schools and to academic and state health departments in support of health research mandated by the Great Lakes Critical Programs Act. Some data gaps will be filled voluntarily by private industry through arrangements with ATSDR.

Health Education

Turning to another of our mandates, CERCLA [§ 104(i)14] directs ATSDR to develop educational materials and provide training for medical colleges, physicians, and other health professionals. To this end, we have developed a series of monographs entitled *Case Studies in Environmental Medicine* to inform health care professionals of health effects caused by hazardous substances in the environment. Twenty documents are currently available; another 15 are in various stages of development. These self-instructional exercises in environmental medicine are designed to guide primary care practitioners through the diagnosis and treatment of illness in persons exposed to hazardous substances in the environment. The documents are prepared and peer reviewed with the assistance of physicians and other health care professionals, including representatives of a number of professional medical societies and associations.

Since 1986, as part of our educational efforts, we have: provided training to more than 30,000 health professionals, distributed more than 140,000 copies of the Case Studies, provided training to more than 400 minority health professionals, and distributed to physicians and hospitals more than 60,000 copies of medical management guidelines for use in responding to emergency events.

In closing, let me also note that ATSDR is one of eight agencies comprising the Public Health Service; we are the principal federal public health agency involved with hazardous waste issues. Our headquarters are in Atlanta. The ATSDR Administrator also serves as the Director of the Centers for Disease Control and Prevention (CDC). Recently, the Department has proposed to merge ATSDR with CDC under the President's Reinvention of Government plan. This merger will provide a

more efficient administration of ATSDR's current CERCLA responsibilities. The merger will also improve the sharing of resources in epidemiology, toxicology, surveillance, and physician education that both agencies now posses. Legislation will be proposed to the Congress to effect this change. At that time, more specific details will be available to the Congress.

Mr. Chairman, this concludes my testimony. I will be pleased to answer questions.

Mr. OXLEY. Thank you, Dr. Johnson.

Mr. Fields.

STATEMENT OF TIMOTHY FIELDS, JR.

Mr. FIELDS. Thank you, Mr. Chairman. I am glad to be here this morning to represent EPA on the remedy selection provisions and pending Superfund legislation that Congress will be developing.

We will be discussing this morning how Superfund cleanup decisions are made, and reforms supported by this administration to significantly reduce the cost of cleanup while continuing to protect public health and the environment now and into the future.

We have done a lot over the last several years in trying to improve that process with more than 1,255 removals at NPL sites, more than 1,500 records of decisions signed, 292 construction completions, and 489 sites under construction. So I think a lot has been done, but we recognize that there are a lot of areas of the remedy selection process that need to be improved, and I would like to talk about those areas that we think need to be included in changes to a Superfund law.

First, Superfund sites do pose significant risk to public health and the environment. Recent analyses of risk data from about 200 Superfund sites has shown that about 80 percent of the sites exceed either an individual cancer risk level of 1 in 10,000, or a noncancer hazard index value of greater than one.

I would emphasize that these determinations are not worst case scenarios but reasonable estimates of those individuals that are likely to have the highest exposures around those sites.

In determining the appropriate level of cleanup, the administration supports consideration of reasonably anticipated future land uses early in the cleanup process. Critical to this consideration is early consultation and involvement of local communities, and especially residents living closest to the site.

The administration supports clarifying the cleanup objectives for Superfund by requiring establishment of national goals to protect human health and the environment. The purpose of the national goals is to promote consistent and equivalent protection of human health and the environment. These goals would be considered at all sites and met unless achievement would be technically infeasible or unreasonably costly.

We support the establishment of a national Superfund risk assessment protocol governing the development and use of risk assessments. The risk protocol used in conjunction with the national goals is intended to create greater consistency and clarity in the way risks are estimated, and to provide greater understanding of how they are used to ensure protection.

We also support a reform of the remedy selection process through elimination of the mandate for permanent solutions, narrowing the preference for our treatment to hot spots within a site, providing for a greater consideration of the role of costs in cleanup decision-

making, and eliminating the requirement to obtain relevant and appropriate requirements of other laws.

Together, we estimate that these reforms would result in cleanup cost savings of 19 to 25 percent, and save private parties nearly $400 million a year. By speeding the pace of cleanup and significantly reducing costs, these remedy reforms will also stimulate economic redevelopment of contaminated properties.

In an effort to further promote the cleanup and redevelopment of currently abandoned or contaminated urban brownfields, the Agency believes that these remedy selection reforms will help to foster the assessment, cleanup and reuse of these commercial and industrial properties in major cities and rural areas around the country.

In a reformed Superfund remedy selection process, cleanup would be determined on a site-specific basis by applying five remedy selection criteria: (1) the remedy's effectiveness; (2) its long-term reliability; (3) the risk posed by the remedy to the community, cleanup workers and the environment; (4) the acceptability of the remedy to the affected community; and, (5) the reasonableness of cost of that remedy.

This restructured criterion for remedy selection will streamline the decisionmaking process and provide greater consideration of the role of costs while increasing the role of the affected community. As a result cost would be placed on a equal footing with other remedy selection criteria. Under these reforms, both costs and community acceptance would have a greater role in remedy selection than they do at the current time.

The administration continues to support the goal of protecting the Nation's valuable groundwater resources from contamination from Superfund sites. The concerns expressed regarding groundwater restoration center on the difficulty in achieving cleanup and the cost of that cleanup. The reforms we support would address these concerns.

We recognize the difficulties of achieving complete cleanup of contaminants such as dense non-aqueous phase liquids or DNAPL's. We continue to support statutory revisions that include consideration of the timeframe in which groundwater would likely be used for drinking water purposes and designing cleanups accordingly. This approach also acknowledges the use of containment and natural attenuation where appropriate.

Finally, the statutory requirement that remedies attain applicable, relevant and appropriate requirements should be modified. The relevant and appropriate element in the requirements should be eliminated, which would result in the elimination of many additional conditions on Superfund remedies that are presently driving up the cost of cleanup.

Mr. Chairman, I believe that these reforms to the remedy selection process, as we have outlined, would greatly enhance Superfund cleanups at significant cost savings to both the public and the private sector. We are interested in working with Congress to make Superfund fairer, faster and more efficient, and make the remedy selection process work better for all.

Thank you very much.

[The prepared statement of Timothy Fields, Jr., follows:]

STATEMENT OF TIMOTHY FIELDS, JR., DEPUTY ASSISTANT ADMINISTRATOR, OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, U.S. ENVIRONMENTAL PROTECTION AGENCY

Introduction

Mr. Chairman and Members of the Subcommittee, thank you for the opportunity to appear before you today to discuss the cleanup of National Priorities List (NPL) sites under the Comprehensive Environmental Response, Compensation, and Liability Act (Superfund). I will briefly discuss how Superfund cleanup decisions are made and the reforms supported by this Administration to improve the cleanup process.

The Remedy Selection Process

The remedy selection process is probably the most challenging job the EPA must perform under the Superfund program. The Agency must first perform the careful assessment of the nature and extent of the contamination, as well as, the current and potential risks posed to human health and the environment. After assessing the risks posed by the site, EPA determines whether cleanup is warranted and, if so, develops and evaluates alternative cleanup approaches to manage the risk. Finally, EPA must make a decision as to the approach for a given site, balancing the concerns of the community, state and local governments, expenditure of public funds and the limits of science and technology to correct past contamination. This process is described in the National Oil and Hazardous Substances Contingency Plan published in the Federal Register on March 8, 1990.

To speed the pace of the remedial process the Agency developed the Superfund Accelerated Cleanup Model (SACM) in 1992. While removal authorities have always been used to address the immediate public health threats at NPL sites, under this approach removal authorities are initiated more quickly, often before the remedial investigation has begun, providing immediate risk reduction and providing a basis for remedial actions which will address long-term risks. To date, we have initiated 1255 removal actions at NPL sites.

EPA is also conducting expanded site assessments early in the remedial process. This leads to a more efficient detailed site characterization, the remedial investigation/feasibility study (RI/FS). At this stage EPA assesses, through the baseline risk assessment, what contaminants are present, the magnitude and extent of the contamination, the current and potential risks to the surrounding community, human health and the environment, and evaluates the effectiveness of various cleanup methods for that particular site. In the remedial investigations (RI) stage, an evaluation of past activities at the site leads to sampling and laboratory analysis to determine the contaminants of concern and the extent to which the soil, air, surface water and groundwater and perhaps people, fish, food, or fodder are contaminated. The remedial investigation is the point at which the baseline risk assessment is conducted for each NPL site. As described in the National Contingency Plan (NCP), the baseline risk assessment should "characterize the current and potential threats to human health and the environment that may be posed by contaminants migrating to groundwater or surface water, releasing to air, leaching through soil, remaining in the soil and bioaccumulating in the food chain."

Prior to 1990, Superfund risk assessments relied heavily on the "worst case scenario." This is no longer the case. We now use guidance for risk assessments that employs site-specific information on contaminant concentrations, exposure pathways and land use. The EPA's Science Advisory Board has critically reviewed this guidance and found it to be sound. This guidance makes today's Superfund risk assessments more realistic than those conducted earlier in the program. In addition to calculating central tendency determinations required in several of the pending risk assessment bills, EPA's current risk assessment process also considers other factors in order to protect most individuals near Superfund sites. Reliance solely on the central tendency or average exposures to set cleanup levels may underestimate risk for up to half of all exposed individuals.

The human health portion of Superfund risk assessment is conducted as outlined in EPA's *Risk Assessment Guidance for Superfund, Volume 1, Human Health Evaluation Manual Part A."* Land use is taken into account to determine exposure pathways, and combined with site specific data on chemical concentrations to estimate human health exposures at a site. These exposure estimates are then combined with chemical toxicity data available from EPA's Office of Research and Development to estimate site-specific cancer and non-cancer risks. Volume II of the *Risk Assessment Guidance for Superfund, Environmental Evaluation Manual* provides guidance for conducting the environmental portion of the baseline risk assessment.

The baseline risk assessment also helps establish preliminary cleanup goals for the site that are protective of human health and the environment. If cleanup is re-

quired, EPA then conducts a feasibility study (FS) in which several cleanup proposals are developed to attain the preliminary cleanup goals and a no action alternative is reviewed. Each alternative is then evaluated against nine criteria. These nine criteria, as described in the NCP, are presented in three categories—threshold, balancing, and modifying. The two threshold criteria are: first, protection of public health and the environment; and, second, compliance with applicable or relevant and appropriate requirements (ARARs) of other federal and state laws which has led to requirements for more stringent cleanups at many sites. There are five balancing criteria which are weighed or balanced against one another and include long-term effectiveness and permanence; reduction in toxicity, mobility or volume achieved through treatment; short-term effectiveness; implementability; and, cost. The final two criteria are modifying criteria—state acceptance and community acceptance.

After evaluating the alternative cleanup approaches using nine criteria, the Agency finally solicits public comment on a proposed plan. The proposed remedy must fulfill the statutory requirements to protect human health and the environment, comply with ARARs (or invoke a waiver), be cost-effective and utilize permanent solutions and alternative treatment technologies or resource recovery technologies to the maximum extent practicable. Upon full consideration and response to all public comments, the Agency issues its cleanup decision in a Record of Decision (ROD). Where the preference to use treatment as a principle element has not been met, the reasons must be explained. EPA expects, and review of RODs to data shows, that we will treat at some sites, manage wastes at some sites, and at many sites we do both. EPA has signed over 1500 Records of Decision establishing the cleanup levels and technologies necessary to protect public health and the environment. All cleanup construction has been completed at 292 NPL sites and partial cleanups have been completed at an additional 489 sites.

Improvements to the Remedy Selection Process

Critics of the Superfund cleanup process have claimed that Superfund sites pose an insignificant human health risk, the cost of cleanup is too extensive, and the pace of cleanup is too slow.

As stated by Administrator Browner before this Subcommittee on March 16th and as you will hear from Dr. Barry Johnson from ATSDR, Superfund sites do pose significant risk to public health and the environment. Recent analysis of risk data from a sample of about 200 Superfund sites shows that risk levels at more than 80 percent of the sites exceeded either an individual cancer risk level of 1 in 10,000 or a noncancer hazard index value greater than 1. While potential future risks are generally higher than current risks, this data shows that about one third of the sites have a current risk of at least 10^{-4} or a hazard index of 1. The methods of determining these risk levels are not worst case but reasonable estimates of those individuals that are likely to have the highest exposures. This information supports the need for action to protect the public from risks at Superfund sites.

One example of our efforts to improve the assessment of health and environmental hazards was to revise the Hazard Ranking System, which is used to help screen sites for inclusion on the NPL. The revised HRS places an emphasis on sites with actual exposure to humans and sensitive environments. Of the sites that have been proposed for addition to the National Priorities List (NPL) using the revised Hazard Ranking System (since 1991), 80 percent show that there is past or current exposure to either humans or sensitive environments. We believe that these changes help to better identify those sites posing the greatest risks to health and the environment.

As the Administration recently reported to you, this year the Agency has launched a series of administrative reforms to improve the Superfund program. Some of these reforms are designed to make the cleanup process, including remedy selection, more efficient. Many of the legislative reforms offered by the Administration last year also address these concerns. However, we urge Congress to make the changes in the law that the reauthorization stakeholders coalition and this subcommittee developed last year.

The Administration supports consideration of reasonably anticipated future land uses early in the Remedial Investigation/Feasibility Study (RI/FS) process and before cleanup decisions are made to help determine the appropriate level of cleanup. The Agency, as a matter of policy, considers future land use under the present remedy selection process. However, it supports a statutory requirement for early consideration of reasonably anticipated future land use to guide development of appropriate cleanup levels and remedy alternatives. Critical to this consideration, however, should be the early consultation and involvement of local communities, especially those residents living closest to the site.

The Administration supports clarifying the cleanup objectives for Superfund by requiring the establishment of national goals for the protection of human health and the environment. These goals would include a single numeric level for carcinogens, a single numeric level for non-carcinogens and a narrative goal for environmental risks. The purpose of the national goals was to promote consistent and equivalent protection of human health and the environment from the risks posed by Superfund sites in terms that can be more clearly understood by the public. The goals would be considered at all sites and met, unless achievement would be technically infeasible or unreasonably costly.

We support the establishment of a national Superfund risk protocol to govern the development and use of risk assessments in the Superfund program. The protocol would have governed baseline risk assessments which determine whether cleanup is needed, and help develop cleanup levels, and the analysis of risks that may be posed by implementation of a particular cleanup alternative. The National Risk Protocol would promote realistic estimates that neither minimize nor exaggerate the risks posed by a Superfund site. The risk protocol used in conjunction with the national goals was intended to create greater consistency and clarity in the ways risks are estimated and to provide greater understanding of how they are used to ensure protection.

We also sought reform of the remedy selection process through elimination of the mandate for permanent solutions, narrowing the preference for treatment to "hot spots" within a site, providing for greater consideration of cost in cleanup decision making, and eliminating the requirement to attain relevant and appropriate requirements of other laws. Based on last year's data, we estimated that these reforms would have resulted in cleanup costs savings of 19 percent to 25 percent, and saved private parties nearly $400 million a year.

The elimination of the statutory mandate for permanent solutions should be replaced with a requirement to address long-term reliability. This would provide EPA with the impetus to select durable remedies, but enables the consideration of other factors such as community acceptance of the remedy, the reasonableness of its cost, and the availability of other treatment technologies. The current statutory preference for treatment should be limited to "hot spots". This would avoid costly treatment of large volumes of low level contamination and ensure that the most contaminated areas at sites and other areas where contamination could not be contained safely would receive treatment.

The appropriate remedy, under this new approach, would be determined on a site-specific basis by applying five remedy selection criteria. An appropriate remedy that is protective of human health and the environment would be determined by considering the remedy's effectiveness; its long-term reliability; the risk posed by the remedy to the community, cleanup workers and the environment; the acceptability of the remedy to the affected community; and, the reasonableness of cost in relation to the other factors just mentioned.

This restructured criteria selection will streamline the decision making process, provide elevated consideration of cost, and increase the role of the local community. As a result, cost would be placed on an equal footing with effectiveness, community acceptance, long-term reliability and short-term implementation concerns. Under these reforms, both cost and community acceptance would have a greater role in remedy selection than they do under current law.

The Administration continues to support the goal of protecting the nation's valuable groundwater resources from contamination from Superfund sites. Currently, one out of two citizens get their drinking water from groundwater aquifers. The concerns expressed regarding groundwater restoration center on the difficulty in achieving cleanup and the cost of that cleanup. The reforms we support would have addressed these concerns.

When developing ground water remedies, cost would have been considered in several ways: First, cost is a factor in determining whether it is impracticable to remediate; second, unreasonable cost is a reason to achieve a lesser level of cleanup where concentrations are low; and finally, reasonableness of cost is a specific factor to be considered in remedy selection.

While continuing to strive for restoration of contaminated groundwater to its beneficial use where technologically feasible, we have established policy and would support statutory revisions that consider the difficulties of achieving complete cleanup of contaminants such as Dense Non-Aqueous Phase Liquids (DNAPLs). In addition, the Administration supported, last year, consideration of the time frame in which groundwater would likely be used for drinking water development and designed the cleanup accordingly. This approach also acknowledged the use of containment and natural attenuation where appropriate.

We support the goal of returning contaminated ground waters to their beneficial use and avoid passing on a legacy of hazardous waste contamination to future generations. If we were to focus only on containment, we must also factor in the costs of maintaining these systems. Another consideration is a recognition that much of the hazardous waste contamination to ground water is unlikely to attenuate over time. We also want to continue to encourage development of innovative cleanup technologies to address this contamination. And, without restoration of ground water where it is technically feasible, we run the risk of seriously limiting economic development in the West and economic redevelopment of many communities across the U.S.

Finally, the statutory requirement that remedies attain "applicable or relevant and appropriate requirements" (ARARs) should be modified. The "relevant and appropriate" element in the requirement should be eliminated and only those standards directly applicable to cleanups should be used at sites. At present, ARARs are often found to increase the cost of cleanup, create additional delay and require compliance with laws that have little to do with the level of cleanup required. Thus, this reform would result in the elimination of the many additional conditions on Superfund remedies presently imposed that drive up the cost of cleanup.

Other Issues

Many of the same concerns with the cost and speed of Superfund cleanup that led to the Superfund Reform Act are being addressed by Congress in unrelated legislation that may lead to undesirable consequences. Specifically, H.R. 1022, the "Risk Assessment and Cost-Benefit Act of 1995," requires the selection of the least-cost remedy for cleanup actions based on an incremental cost benefit test. While it is important to elevate the role of cost in remedy selection, under the provisions of H.R. 1022, incremental cost-benefit analysis becomes the primary remedy selection criterion, potentially superseding other remedy selection criteria including the protection of human health or the environment, or the preferences of affected citizens. This bill appears to preempt state requirements, even those directly applicable to cleanup of hazardous waste sites, unless they meet the incremental cost-benefit standard. As a result, effective remedies which protect human health and the environment and are acceptable to the community could be rejected in favor of remedies that leave significant portions of the population unprotected, that are unacceptable to communities adjacent to Superfund sites, that allow the spread of contaminated ground water, and that leave contaminated sites as a blight on communities for the future.

We are also aware that the Committee is interested in making sure that radioactively contaminated sites are addressed appropriately by the Agency. I would like to assure you that the Office of Solid Waste and Emergency Response is working closely with the Office of Radiation and Indoor Air to develop an overall regulatory approach to address the risk to people and the environment from these sites.

Finally, EPA recently received a March 30 request from this Committee on lead issues. You have our responses to these questions. However, I would like to take this opportunity to highlight a few key points.

EPA's approach to addressing soil lead contamination at Superfund sites is described in an GSWER Directive issues on July 14, 1994 (Revised Interim Soil Lead Guidance for CERCLA Sites and RCRA Corrective Action Facilities). This Directive promotes the use of better science as well as increased consistency in EPA's assessment and management of lead risks. It recommends a risk-based screening level of 400 ppm for lead in soil for residential land use, describes how to develop site-specific preliminary remediation goals or media cleanup standards at Superfund and RCRA sites, and describes a plan for soil lead cleanup at Superfund and RCRA sites that have multiple sources of lead. It recommends the use of the Integrated Exposure Uptake Biokinetic (IEUBK) Model to evaluate potential risks to children from environmental exposures to lead at hazardous waste sites in residential settings.

The IEUBK model is designed to consider site-specific information in estimating the overall exposure of children to various environmental sources of lead. By identifying the range and magnitude of lead sources at a given site, risk managers are better able to determine which source or exposure control actions might address the greatest lead risks. The model was developed in a cross-Agency effort to build the best available information on the effects of lead in humans into a state-of-the-art assessment tool. The EPA's Science Advisory Board in an early review of this tool stated that the model "represents an important advance in assessing biologic response to and potential health risks from environmental contaminants" and encouraged the Agency to consider development of similar tools for other contaminants. As a result of comment by the Science Advisory Board and others, EPA is working to validate the IEUPK model and to have the results peer reviewed.

Some have argued that the Agency should base its decisions about the need for cleanup on blood lead data. The Directive recommends the use of all available data, including blood lead data, in assessing lead-related risks. However, the Science Advisory Board cautions that blood lead data must be evaluated carefully. Among other factors, for example, small sample size and seasonal or other temporary variations in the behavior of children can affect measured blood leads in site residents. By the time lead shows up in blood analysis, harm to children may have already occurred. We support the Science Advisory Board recommendation that blood lead levels should NOT be used alone to estimate site risks.

Some critics have argued that mining site soils represent a lesser threat than soils from other types of sites because of their low "bioavailability." This "bioavailability" can depend both on soil particle size and the solubility of the lead species present. The Agency agrees that soil lead bioavailability is an important consideration in evaluating lead risks. However, most sites are not easily divided into groups of high or low bioavailability. For example, many mining sites have experienced other types of milling or smelting activities that could greatly influence the soil types and thus the bioavailability of soil or house dust in a community. However, in some cases, site-specific bioavailability studies may be desirable, if for example potential cleanup costs are estimated to be large.

Your recent request of EPA for information on lead issues also implies a concern that EPA has not been forthcoming in sharing the results of the "Three City Lead Study," a group of three studies conducted to evaluate the impact of soil lead abatement on blood lead levels in children in urban environments. In fact, the results of this study have been discussed in several peer review meetings that were open to the public and in final reports that are available to the public. Reports of the individual cities underwent expert peer review, and the results of the three cities combined were discussed in a draft EPA Integrated Report that was peer reviewed in a public workshop in August, 1983. In response to additional requests for analyses by peer reviewers, the Agency's Office of Research and Development (ORD) is currently conducting further analyses which it expects to complete in August, 1995. The final report will be published after completion of the peer review process. We are working to condense the schedule as much as possible while including the necessary per review steps. If the peer review results in no additional need for analyses, the report will be released in final form in January, 1996. At about the same time, the Agency plans to release the broader databases associated with the study so that others can conduct their own analyses. Preliminary findings indicate that: (a) interrupting the pathways by which children are exposed to lead-laden dusts reduces blood lead levels; (b) abatement of soil in areas of initially high soil lead levels does, in fact, reduce blood lead levels; and (c) abatement of soil lead where levels were initially near the OSWER soil screening level may have little impact on blood lead levels.

Conclusion

In conclusion, Mr. Chairman, reforms to the remedy selection process, as I have just outlined, would greatly enhance Superfund cleanups at significant cost savings to both the public and the private sectors. These reforms were supported by a broad range of stakeholders last year and represent a substantial restructuring of the Superfund cleanup process. We are eager to work with this committee to craft legislative solutions to many of the flaws we have identified within the statute itself. The development of national goals and the establishment of a national risk protocol, the elimination of costly provisions for permanent solutions and requirements for compliance with non-cleanup related provisions of other laws, and efforts to reduce costs in the program while increasing the opportunity for community involvement suggest ways to provide the American people with a Superfund program that is efficient and that affectively protects our nation's health and the environment.

Thank you for the opportunity to address this Subcommittee. I will be pleased to answer any questions that you might have.

Mr. OXLEY. Thank you, Mr. Fields.

The Chair would recognize himself for questions.

In our discussions of remedy selection and risk assessment, we have discussed a lot of changes that we can make to the Superfund statute. However, in the years that I have looked at this issue, I have been disturbed by a recurring problem that I have seen that has nothing really to do with the Superfund statute. That problem is illustrated by this short excerpt of an ABC News Special about

the supposed lead poisoning from the Smuggler's Mine Superfund site in Aspen, Colorado.

[Videotape played.]

Mr. OXLEY. Thank you.

It was interesting, the long pregnant pause there, because it seems to me, the answer from the EPA flew in the face of the facts, and I am deeply concerned when I hear EPA passing judgment on the values of local communities, dismissing them as if the people were from another planet.

The real deficiency, as I see it, is with EPA's attitude toward local communities and the willingness of those communities to live with some risk in their lives. I am wondering, Mr. Fields, how do you propose we correct this obvious disconnect that is not uncommon?

Mr. FIELDS. I think we definitely need to work, and we would support you and the rest of Congress in trying to make changes to eliminate the kind of problem that you just saw on the screen there. We supported and we still support the establishment of community work groups around a lot of our Superfund sites.

The Aspen situation showed us the value of having the citizens involved. The technical information committee around that site provided advise, they got other stakeholders involved at that site. EPA had to make some changes because people were involved. Unfortunately, they got involved too late. We want to change that.

In the new law, we would hope that we would require citizens who live around sites to get involved. A community work group be formed to represent the citizens, bring their views to the table and make sure they are heard early on.

Second, we need to do a better job of addressing lead. We have better information now. That is why, because of a situation like Aspen and other sites around the country, our recent model and our use of the biokinetics uptake model, our lead directive that came out in July 1994, we think, better reflects now better knowledge about lead, how it behaves, taking bioavailability into account like it was taken into account at Aspen in terms of uptake, mining situations versus nonmining sites, all those factors were taken into account. So I think the science is better. We have learned more. But, more importantly, I think, at Aspen, the greater thing that we need to do in the future is to get the citizens, the people in that community involved earlier in our decisionmaking process around our sites.

Mr. OXLEY. As you know, we are very desirous of achieving that goal in this legislation, and I would suggest that it is not necessary to require people to be involved. It is obvious from that tape and from our discussions and from witnesses we have had, that people have a real desire to be involved in the takeoff as well as the landing in trying to make some rational decision.

I guess that I am hopeful, at least, that EPA has learned something from this kind of experience. You indicated that it has, and I hope that that is the case.

Let me ask you about the five criteria that you have pointed out that you support, and that we support. But, in fact, the five criteria that you pointed out really don't, according to EPA, at least, should not be applied to groundwater; is that correct?

Mr. FIELDS. No, we would use the same type of five criterion approach. We would still utilize those same types of factors in even evaluating remedies involving groundwater. We would look at the effectiveness of the remedy to meet protective concentration levels and the narrower applicable requirements of other laws, the long term reliability of the remedy, the short-term risk of implementing the remedy, we would look at community acceptance, and we would look for reasonableness of costs. All we are saying regarding groundwater is that we would consider some additional characteristics, as well, in making decisions.

We would use five criteria in all remedy selection decisions.

Mr. OXLEY. Well, what is the position of EPA regarding cost versus benefit under the groundwater provision? Is there no outward limit to what may be spent on groundwater cleanup according to the EPA?

Mr. FIELDS. We recognize that the cost of groundwater cleanup is something that we need to look at. The average cost of a Superfund site is about $25 million. About $17 million on the average—excluding the most expensive 6 percent—for groundwater remediation. So we recognize that groundwater, in terms of dealing with the cost question, is a big element of the overall cost of Superfund site remediation, since 85 percent of our sites have groundwater contamination.

What we are looking at there, and that is one of the reasons, Congressman, that we elevated in our proposal for changes to the law, made the role of costs on coequal status with all the other criteria. Before cost was not a criterion that was given that type of elevated status in evaluating a remedy. This new approach that we are proposing in making cost have equal status with all the other criteria that are utilized to evaluate a remedy that will assure us that as we consider the cost of cleanup that we look at groundwater remediation and what the associated costs of that remediation will be, and whether or not that cost is appropriate in relation to the other benefits that that remedy might provide in the way of reliability, community acceptance, et cetera.

Second, in groundwater remediation, we are looking at more use of the science of cleaning up dense non-aqueous phase liquids that may be present at 60 percent of the groundwater sites that we deal with. We are looking at more use of technical impracticability waivers where the technology does not exist to remediate the groundwater, we are looking at maybe doing some containment until such time as we can provide for long-term remediation through appropriate technology for groundwater remediation.

So I think through more consideration of costs and better consideration of the real science of groundwater remediation, that will help us avoid spending inordinate amounts of money on groundwater remediation when it is not appropriate.

Mr. OXLEY. Well, the words sound good, I just hope the music matches. The point is that the bill last year was sadly deficient and talked about cleaning up groundwater regardless of cost. It didn't say anything about cost. It didn't say anything about cost/benefit analysis or risk assessment, and required cleanup beyond drinking water standards regardless of the land use at a later date.

So my sense is that the effort this year will go beyond what was proposed in last year's bill, and I think we can effectuate some reasonable cost savings in that area of groundwater while still protecting the public health, and I appreciate your testimony.

My time has expired.

I recognize the gentleman from Louisiana.

Mr. TAUZIN. I thank the Chair.

Mr. Fields, on page 5 of your statement, you report that recent analysis of risk data from a sample of about 200 Superfund sites, indeed, shows that 80 percent of the sites exceeded risk levels or noncancer hazard index values greater than one. What about the other 20 percent, that would be 40 sites out of the 200?

Mr. FIELDS. Right. That data is based on the Duke University study that was talked about earlier.

Mr. TAUZIN. I understand. What about the other 40 sites, are you saying there wasn't risk data indicating a significant risk to the public health at those sites?

Mr. FIELDS. Right. No, at those sites, there would be a significant, we believe, significant future potential risks. We have to look at actual current risks that exist at sites, but there is also future risk that we have to deal with at sites. Based on our hazard ranking system data that we utilize to put sites on the National Priorities List, 80 percent of the sites that we look at have actual exposures to humans or sensitive ecosystems. The other sites, the other 20 percent of the sites, we believe, have future risks that we have to be concerned about. So we believe that we just can't deal with actual risks that are posed by a site, but also potential future risks have to be considered.

Mr. TAUZIN. Well, at least there is this 20 percent you don't have an immediate risk quantifiable on the same risk analysis.

You say things are changing. Why won't you release the final report on the $15 million Three-Cities Study?

Mr. FIELDS. Congressman, we will release that. We have no problem with giving it to you. The problem we have now, it is not completed. We will have the final review draft report in 3 months that we will give to the committee.

Mr. TAUZIN. We will see it in 3 months.

Mr. FIELDS. In August, in August of this year, August 1995, we will give you the final external review draft report. We will give you the draft as it exists now.

Mr. TAUZIN. If things are changing so much, why in February of this year did EPA propose soil removals in Bossier City that were based upon the same old elevated soil lead levels that have led to the problems in Aspen and Triumph, Idaho, that we heard about from Ms. Donna Rose, and others?

Mr. FIELDS. Well, it takes time to effectuate policy. We issued the guidance, it is true, last summer.

Mr. TAUZIN. When were the guidance issued, in 1994?

Mr. FIELDS. Yes, last summer, July 1994.

Mr. TAUZIN. That was February of this year.

Mr. FIELDS. Right.

Mr. TAUZIN. The Bossier City Council has unanimously passed a resolution trying to keep their community off of Superfund listing because of the $4 million risk assessment which they reviewed and

endorsed indicates no immediate health risk posed by these so-called "elevated soil levels" that you guys determined again.

What I am saying is, I have a community in my State about to go through with what Aspen, Colorado, went through, what Triumph, Idaho, went through, and we heard a compelling testimony from Ms. Donna Rose about the stress on humans created by the EPA in that community.

Mr. FIELDS. Right.

Mr. TAUZIN. You are saying things have changed, but I have a community in my State about to go through the same kind of mess, and what is changing?

Mr. FIELDS. Well, I mean, I know that everybody will have examples of where we have—and we admit it, we have made some mistakes at certain places around the country.

Mr. TAUZIN. Well, is Bossier City a mistake?

Mr. FIELDS. I will have to look into, Congressman, Mr. Tauzin, the specifics of your site. I will be happy to get back to you for the record.

Mr. TAUZIN. You understand why the chairman, and I share with him a view that the music sounds good—the words sound good, but maybe the music won't match. You tell us things have changed, you have new guidelines, and then I hear about Bossier City.

Mr. FIELDS. Right.

Mr. TAUZIN. And I don't want to hear from a resident in Bossier City come and describe for me what I heard from Ms. Donna Rose in Idaho. I mean, things obviously may not be changing. It is not good enough to say, well, we are still making mistakes. If you have changed them, why do you still do these things?

Mr. FIELDS. Right.

Mr. TAUZIN. Why do you still use the same IEUBK computer model that seems to be the main tool that is used to end up with these elevated soil level concentrations that don't end up making sense to people when they do risk assessment? Why are you stuck on that same model?

Mr. FIELDS. Well, that model has been, as was said on the earlier panel, the model was peer reviewed, utilized for the Clean Air Act back in the early 1980's.

Mr. TAUZIN. You still stand by it.

Mr. FIELDS. Well, we stand by the——

Mr. TAUZIN. And it produces the same results in Bossier City that it produced in Aspen, or Triumph. It won't be a mistake, it will be Agency policy, not a mistake.

Mr. FIELDS. We stand behind the IEUBK model as one that has been peer reviewed, reviewed by an eminent group of scientists outside of EPA as the best model available for estimating appropriate remediation.

Mr. TAUZIN. It doesn't matter if the community has got a $4 million risk assessment that indicates no risk hazard to its citizens, you are still going to stand by your model, you are going to put Bossier City through the same kind of mess you put Triumph, Idaho, and Aspen, Colorado?

Mr. FIELDS. No. We stand behind the model as one tool, as one element of a process for making site decisions about site remediation. Community acceptance, community views have to be given

an appropriate weight. We have to consider other factors as well. But we believe that the IEUBK model, when implemented appropriately, can provide an appropriate level of cleanup for a site. It has come up with results at certain sites of 2,000, some sites 1,000. It depends on the conditions, proximity of residents, children nearby, all those factors are taken into account in developing a level.

But the 400 ppm soil screening level, the science of lead tells us that is an appropriate screening level to determine that basically contamination below that level is not going to cause undue harm to kids, and that is an appropriate screening level to look at.

Mr. TAUZIN. That didn't stop you in Pennsylvania, in Palmerton, from remediating homes where there was no such excess in the 400 ppm trigger level. That is not stopping you anywhere.

Let me tell you, you have a long way to convince me that things have changed. I don't think they have. Thank you.

Mr. FIELDS. I understand your point of view, but I wanted to assure you that those examples, the Palmerton, Bossier City, Aspen, those examples are the ones that are causing us now to have to look very closely at our policies, see how we implement them, look at whether we need to make adjustments.

We are going to be having a one day meeting in June with all of our 10 regions to talk specifically about the implementation of our lead directive, how is it being played out at individual sites, do we need to make changes to how we implement it. We are really giving high priority and a lot of attention to this issue in EPA.

Mr. OXLEY. I think it is good timing on that meeting because, frankly, you are getting killed in the court of public opinion right now on that issue.

The gentleman from California.

Mr. BILBRAY. Yes, Mr. Chairman.

Mr. Fields, as I said before, I sort of come from the public health side of it and the frustration that there are those who have played politics with the issue. In fact, what concerns me is the term "policy standard" because the policy standards being set are oftentimes in conflict with what good science says. I know that you wanted to try to defend the good science issue.

My frustration is that so often it seems like the political pressure is driving the good science away. Not only in our testing, but maybe even in our dialogue.

On March 16, in her testimony, Administrator Browner stated that we do not yet have all the answers to questions about whether or not an individual's health is being affected by even one of the Superfund sites. At the same time, during the oral testimony, she then made the passionate plea that exposure to hazardous waste is continuing to cause serious disease.

Can you explain what she means with what appears to be contradictory statements?

Mr. FIELDS. I will start, then maybe Dr. Johnson, who is really the health authority, can add.

What she was referring to is the fact that, as we said earlier, more than one-quarter of Americans live within 4 miles of a Superfund site, 80 percent of the Superfund sites that are on the list have actual human exposures associated with those.

We note that in areas where Superfund sites are located, we have situations of leukemia, cancer, and all those other kinds of diseases that appear to be located in proximity to sites where Superfund sites are located. We don't have a direct connection that the Administrator was referring to in terms of that disease definitely came from that site. But the Administrator was referring to the fact that in locations where Superfund sites are located, there appears to be a prevalence of a lot of different diseases, and there appears to be high levels of certain types of cancers and other diseases that appear to have a link to the Superfund site or sites in that community.

We are beginning to work with ATSDR and other agencies to try to document, to the extent we can, the relationship, the connection between that site or those sites and the health problems that are being manifested in a particular community.

Mr. BILBRAY. Okay, so the Administrator, in a moment of passion or compassion, misspoke on how far we can state some of these exposures?

Mr. FIELDS. That was a miscommunication that we sent out in April where we said that the problems at Superfund sites resulted in certain diseases. That was a miscommunication, and we have subsequently corrected that assertion.

Mr. BILBRAY. I want to say that because I think if we are going to protect the public health, we need to count to 10 and make sure that what we are telling the public is based on science, not based on what may sound good politically, and that is on both sides.

My other——

Mr. FIELDS. I do want to say, I don't think the Administrator was trying to mislead the committee. It may have been just——

Mr. BILBRAY. No, but I think sometimes we get into our own, you know, our own rhetoric and our own terminology, and we sort of get fired up on our goals saying, my goal is to make sure that nobody is exposed. Instead of saying that, it is saying, people are being exposed and that is why I am working. There is a huge leap between that, and all at once the public starts perceiving it.

Mr. FIELDS. Fair comment.

Mr. BILBRAY. The Superfund is the most expensive EPA program currently comprising over 35 percent of the EPA's annual budget. It is more than all the other, the drinking water, the air/water quality, the hazardous waste, oil spills, and radiation programs combined. This does not account for all of the expenses in the Department of Justice.

You know, I think that we can say that the removal program has been pretty darned successful. My question is whether the remedial program is worth the same level of funding?

Mr. FIELDS. The removal program at EPA has been tremendously successful, and I am glad to hear you acknowledge that. We all agree, it has been very successful in achieving direct and immediate risk reduction over time.

However, the removal program cannot do all the job that Superfund was intended to do. It cannot deal with long-term risk. It cannot deal with extensive groundwater contamination that exists at many of our sites. There are many limits as to how far the removal program can go.

We spend annually about $300 million on removals for cleanup. The overall Superfund budget each year is about $1.5 billion, as you know. We still need to do and will continue to need to have to do long-term remediation that is beyond the scope of Superfund, and there are many benefits that a remediation program can achieve that are beyond the scope of what the removal program can achieve.

Mr. BILBRAY. Mr. Chairman, and I know my time is up.

Mr. Fields, let me just say this as somebody who has been on the front line, what frustrates me is that the public health people out there many times feels the EPA is the enemy of protecting the public health rather than the ally. A good example is where we had a closed air field where there was lead poisoning on the soil. The environmental health department developed a great remediation or removal strategy, basically was to move it 50 yards to the site of a new constructed freeway, build a cradle of bentonite, impervious bentonite, place the material in, and then place 8 inches of concrete over the top of it.

What worries me is that when the people who care the most about the public health of the children are afraid of the Federal Government coming in and basically throwing out a reasonable effective way of addressing the public health threat because they are afraid the regulation will take precedence over the public health. We need to make sure that doesn't happen.

Mr. OXLEY. The gentleman's time has expired.

The gentlelady from Arkansas.

Mrs. LINCOLN. Thank you, Mr. Chairman.

It sounds to me from your previous questioning that you did touch on groundwater and certainly it seems that there was some agreement that the groundwater is definitely a valuable resource to us here in the United States. I would be interested to ask the same question to this panel that I did to the earlier one, or a little bit similar to, anyway, on the importance of cleaning up groundwater in the aquifers instead of perhaps simply treating it at the wellhead. Also I would like to consider, in terms of the risk assessment cost/benefit analysis that the chairman brought up, how we determine, in terms of areas like mine, where you have a tremendous amount of underground groundwater as a drinking water source, what systems or individuals may be affected by that groundwater source down the road?

Mr. FIELDS. Yes. Your opening comment is good, and I will respond to your question. We believe groundwater is definitely a very valuable resource with 117 million Americans relying on groundwater as their drinking water supply.

I do agree with you that it is important to deal with groundwater remediation in the aquifer and deal with that contamination. You just can't deal with it at the tap because, if you don't deal with the groundwater aquifer, that contamination will spread. You will not be able to control migration to other sources, as your question alludes to. We believe that we have to find ways to contain that aquifer, then over time begin to remediate it. Otherwise, we will have a problem where that contamination will grow. You will have a bigger problem and a more costly problem to deal with later. That problem will begin to migrate to other connecting groundwater and

other drinking water sources offsite, and off that area of that aquifer.

Finally, we are going to provide a great burden for future generations where they will have to deal with the unfinished business of cleaning up and remediating groundwater that we have not dealt with under the current programs and the responsibility we have to the American people.

So I believe that you have to go in there and find ways to actively begin to remediate groundwater because it is a valuable resource and we can't leave that job unfinished for future generations.

Mrs. LINCOLN. Well, I appreciate that. I know we talk an awful lot about leaving an awful lot of debt to future generations. I think it is also important to point out that there is an important need for making sure that groundwater, certainly as a drinking water source for areas like mine, it is very important to make sure that we are looking at the appropriate remediation.

Do you have any suggestions in terms of what was discussed earlier, risk assessment and how to deal with that?

Mr. FIELDS. Well, we believe that our process that we proposed in terms of changes to the law would provide for that. We are proposing that there be a National Risk Protocol established. We have proposed that that be done through a rulemaking. That would involve developing new risk assessment procedures that would include proper delineation of how contamination levels relate to the exposures at a site.

We want to make sure that we factor in, in developing new risk assessment procedures, appropriate weight and consideration of the groundwater resource, how much is that resource, how to properly assess it. How do you deal with things like dense non-aqueous phase liquids, how do we make sure that those are properly considered as we factor in the risks at a site, risks that may migrate over time to other sources.

We believe that in modifying our risks through a National Assessment Protocol that groundwater remediation can be factored in and proper risk assessment tools can be developed and made better for assessing groundwater threats and dealing with how they relate to the appropriate role of costs in making the ultimate remedy selection and risk management decisions.

Mrs. LINCOLN. Dr. Johnson, do you have any comment in terms of groundwaters for drinking sources? It is important for agriculture also, which is heavy in my district.

Mr. JOHNSON. The testimony I gave today indicates a number of troubling health findings. A number of these findings come from areas of the country where groundwater has been contaminated, and so there appears to be some kind of association between human consumption of contaminated groundwater and a number of troubling health effects.

I guess one of the concerns I would have is that we make sure that the remediation, does in fact, do the job that was intended, and that contamination levels are reduced to levels that do not compromise human health. That is a very difficult task for EPA and for the States.

I think some kind of monitoring of long-term effectiveness also has to be thought about.

Mrs. LINCOLN. Thank you, Mr. Chairman.

Mr. OXLEY. Let me ask you, Mr. Fields, I am sure you have heard Governor Florio's quote about how it doesn't make sense to cleanup a railyard in downtown Newark so that it can be a drinking water reservoir. The Chemical Manufacturers, in its testimony, cites another New Jersey example, the Slope Oil and Chemical site in that State, and the EPA based its record of decision in part on an assumption that a shallow aquifer might be used as a potable water source, even when, in this case, there were no nearby drinking water wells, and the site was zoned industrial by the State, and New Jersey had also banned any wells in that region.

That being the case, why did the administration not explicitly support a community process for determining the reasonably foreseeable use of groundwater in the last Congress in the bill that was pending then?

Mr. FIELDS. I think that is an area that we need to look at. We have been trying to take steps internally to deal with this issue. We are working with our Drinking Water Office to make sure that we don't go in there and remediate and try to cleanup and restore to beneficial use groundwater that is not going to be utilized.

If the groundwater has been deemed to be unfit for human consumption, we should not be trying to go in there and remediate it and cleanup that groundwater when that is spending money and spending dollars for no real benefit, particularly if no one is going to be drinking it, and it has been classified, for example, as Class III, not for reuse.

We are looking at now utilizing the groundwater classification schemes as developed by the Office of Water and the States. When we go out and do Superfund site remediation, we want to consider that use that has been agreed to by the community in our groundwater cleanup plan. We have done this in New Hampshire. We have done this in Wisconsin where we are working together to make sure that when we make decisions about groundwater remediation that it takes into account what a community has designated that groundwater to be used for.

If it has been written off, we should not be spending millions of dollars to try to remediate it and clean it up and make it for beneficial reuse.

So some of this can be handled administratively through what we are doing now in working with our Water Office and the Water Program to look at how we look at groundwater designations in a State, and look at how that relates to what we do for remediating a contaminated Superfund site, that that particular groundwater classification has been designated for. That is what we are doing administratively.

We espouse the view and we support the principle of taking into account anticipated future use when making cleanup decisions. That is something that we did support. We need to go back and look at whether or not there is a close enough connection to what we are doing on groundwater.

Mr. OXLEY. Well, we would appreciate any help you can give us as we work our way through the hearing process, and then ulti-

mately to drafting legislation so that we can provide some guidance in the legislation regarding future use issues as it relates to groundwater just the same way as we propose for land use. We think that it has enormous potential for cost savings, and also recognizing the role of the community in helping guide us in those decisions.

So we appreciate that remark, and we hope that the administration, EPA particularly, will be helpful in helping us craft that.

We thank both you gentlemen for your testimony today.

We welcome our third panel of witnesses, and let me introduce the panel, and then start back on my left.

Mr. Daniel Eden representing the Association of State and Territorial Solid Waste Managers; second, Mr. Michael Parr representing the Chemical Manufacturers Association; Mr. Robert Trunek, Environment Health and Safety with ARCO Corporation; Ms. Velma Smith representing Friends of the Earth; and Dr. Edwin Clark from Clean Sites Incorporated.

Mr. Eden, we will begin with you.

STATEMENTS OF DANIEL J. EDEN, DIRECTOR, WASTE PLANNING AND ASSESSMENT DIVISION, TEXAS NATURAL RESOURCE CONSERVATION COMMISSION, ON BEHALF OF ASSOCIATION OF STATE TERRITORIAL SOLID WASTE MANAGEMENT OFFICIALS; MICHAEL S. PARR, REMEDIATION PROGRAM MANAGER, DuPONT, ON BEHALF OF CHEMICAL MANUFACTURERS ASSOCIATION; ROBERT TRUNEK, VICE PRESIDENT OF ENVIRONMENT, HEALTH AND SAFETY, ARCO CORP., ON BEHALF OF NATIONAL ASSOCIATION OF MANUFACTURERS; VELMA M. SMITH, EXECUTIVE DIRECTOR, FRIENDS OF THE EARTH; AND EDWIN H. CLARK, II, PRESIDENT, CLEAN SITES INC.

Mr. EDEN. Thank you, Mr. Chairman, and good afternoon.

I am Dan Eden. I am the Director of Waste Planning and Assessment for the Texas Natural Resource Conservation Commission, and I am here today representing a ASTSWMO, the Association of State and Territorial Solid Waste Management Officials.

The States have completed and overseen thousands of cleanups as documented by a study that was completed last year on the cleanup of non-NPL sites. These cleanups have occurred much faster and more efficiently than has been the case with Federal sites. Based on this experience, we have developed a proposal for remedy selection which we believe would streamline the current process, provide greater fairness and consistency and set realistic goals for remediation.

I would like to briefly outline that process. The first step in the process would be to establish a national risk exposure level in place of the risk range that is currently used by EPA. We believe this would speed up the cleanup process and assure equal protection for all citizens.

Let me stress that this does not necessarily mean the same cleanup level for every site. If you look at the diagram that we included in our testimony, you will see two examples of that where you have two very different sites. One, a neighborhood playground, and the second an industrial parking lot. If you have the same

chemical concentration in amount at both sites, and an acceptable risk level is established, the result will be that you have very different cleanups at both sites because your assumptions in terms of the exposure to the populous at each of those sites would be different.

At a playground, you have children that are playing in and around contamination. At the industrial site, you have workers who might be parking their cars, but really have relatively low exposure to that contamination because you have a parking lot that is covered up.

So I think this example demonstrates that if you do have one exposure level, it doesn't necessarily mean you have the same cleanup level.

The second step in our process, and a very important one is that you have to make a determination of future land use prior to establishing your site specific standards. We believe that the cleanup needs to be clean enough for future land use, but not for any use, and because most, or many if not most of these sites are located in traditionally industrial areas, these areas can be cleaned up for redevelopment without a giant expenditure of funds, and this will be preferable than continuing to redevelop greenfield areas at the expense of these old industrial areas.

A third step in the process would be to develop national cleanup standards or models. These would be media specific standards. In Texas, we have developed what we call our risk reduction rules, which give responsible parties options. One option is that they can use soil standards and groundwater standards that have been developed already based on default assumptions.

A second option is to do a site-specific risk assessment and these options are really suited for different types of sites, for smaller sites it is easier to just deal with the standards that have been developed. For the larger sites, it really makes sense to do a site-specific assessment.

The third step in our process would be a remedy screening, and this would be the next step after land use determination. The option here or the object here is to screen which alternatives are technically feasible and to assure that the costs are not disproportionate to the benefits of the remedy.

We believe that cost is important as a consideration and should be used to screen out those remedies which are disproportionate, and that EPA should work with the States to develop a definition for what that disproportionate cost would be.

Finally, the remedies that pass this disproportionate cost and technical feasibility tests should be further evaluated according to the criteria that Mr. Laws has mentioned. We have four criteria, long-term effectiveness, short-term risk, and total costs and community acceptance.

In summary, we believe that if Congress establishes a national cleanup goal and national cleanup standards based upon future land use and a disproportionate cost test for all remedies, we can achieve the cleanups which are environmentally protective and cost effective.

Let me conclude by saying that we believe that the greatest benefits to streamlining the remedy selection process would be to grant

States the authority to select remedies at NPL sites. We have the track record with other sites and the necessary expertise to get the job done.

[The prepared statement of Daniel J. Eden follows:]

PREPARED STATEMENT OF DANIEL J. EDEN, DIRECTOR, WASTE PLANNING AND ASSESSMENT DIVISION, TEXAS NATURAL RESOURCE CONSERVATION COMMISSION ON BEHALF OF THE ASSOCIATION OF STATE AND TERRITORIAL SOLID WASTE MANAGEMENT OFFICIALS

Good morning. I am Daniel J. Eden and I am the Director of the Waste Planning and Assessment Division for the Texas Natural Resource Conservation Commission. I also hold the office of Past President for the Association of State and Territorial Solid waste Management Officials (ASTSWMO) and am here today representing ASTSWMO. ASTSWMO is a non-profit association which represents the collective interests of waste program directors of the nation's States and Territories. Besides the State cleanup and remedial program managers, ASTSWMO's membership also includes the State regulatory program managers for solid waste, hazardous waste, underground storage tanks, and waste minimization and recycling programs. Our membership is drawn exclusively from State employees who deal daily with the many management and resource implications of the State waste management programs they direct. working closely with the U.S. Environmental Protection Agency (U.S. EPA), we share the objectives of the Congress and public in providing for safe, effective and timely investigation and cleanup of the many contaminated sites throughout the nation. We, therefore, have a fundamental interest in the dialogue surrounding the reauthorization and reform of the Superfund program and as the day to day implementors of the State and Federal cleanup programs, we believe we can offer a unique and fundamental perspective to this debate.

BACKGROUND

When Congress enacted the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) in 1980, commonly known as Superfund, most believed that the program would last for approximately 5 years and cleanup the.then 400 identified seriously abandoned hazardous waste sites requiring remediation. In 1986 CERCLA was amended by the Superfund Amendments and Reauthorization Act (SARA) where a strong preference for permanent remedies was established. Today, with over 1200 identified National Priorities List sites and over 30,000 non-NPL sites requiring somesort of remediation we believe it is now time to consider issues such as future land use, institutional controls and an overall streamlined remedy selection process (i.e., single risk exposure goal) if we are to return the majority of these sites to reproductive use.

In order for the primary implementors of the Superfund program (Federal and State regulators) to more effectively address the remediation of these contaminated sites several critical changes to CERCLA are necessary. ASTSWMO, therefore, proposes the following remedy selection process which we believe would streamline the program, provide an element of fairness and consistency to the clean up process, and set *realistic* goals for the remediation of a site. It would also answer the question of not only "how clean is clean?", but "how clean is clean *enough*?" We have attached our position paper on remedy selection to this statement as it more thoroughly outlines our proposed remedy selection process, but a summary of the key steps addressed follows.

ASTSWMO REMEDY SELECTION PROPOSAL

Establishment of National Risk Goal.—First, the CERCLA statute needs to specify a clearly defined overarching cleanup goal which will be applicable to all sites. In other words, establish a national risk *exposure* level which will ensure that all citizens in the country are provided with the *same level of exposure protection*—not necessarily the same level of cleanup. I have attached a sample diagram explaining this process. For example, a one in a million (10^{-6}) exposure level could be set, and at one site this level could be achieved by a simple containment mechanism on the site (e.g., a paved parking lot in an industrial area) and at another site this level could be achieved by a full scale complete cleanup of the site (e.g., a playground near a school) The point is that in both situations the allowable risk exposure level will be the same.

Currently, the National Contingency Plan (NCP) provides for a risk range of 1 x 10^{-4} to 1 x 10^{-6} for whole site risk carcinogens resulting in a continuum of "protec-

tiveness" at sites throughout the nation due to the inherent flexibility provided by the risk range. Not surprisingly, this "flexible" process fosters lengthy debates and heated disagreements over whether remediation is even necessary, and the form any remediation should take. It also places administrators and implementors of the program into the inappropriate role of determining risk policy and into the unenviable position of explaining to one community why their exposure level was set for a one in a ten thousand risk level while another community warranted a one in a million exposure level. Eliminating these debates and providing definitive risk guidance for the implementors of the program would greatly increase the pace of cleanups and ensure equal protection for all citizens throughout this country, and a single national risk exposure level would achieve that end.

Land Use Determination.—Second, ASTSWMO recommends that a land use determination be an integral and distinct part of the site-specific clean up decision-making process. Once land use is determined, clean up standards would be based upon exposure pathways consistent with the land use and target risk goal. The cleanup needs to be clean enough for the *intended land use not for any use.* Making the land use determination prior to the establishment of the site-specific clean up standards is a necessary revision to the existing NCP process. State Waste Managers have come to recognize that large numbers of Superfund sites are located in traditionally industrial areas and should not be required to meet unrealistic land use expectations. ASTSWMO believes this revised approach to land use will facilitate the redevelopment of existing industrial areas rather than encourage industrial development in currently non-industrial areas. I would also like to note that many States, including Texas, routinely incorporate land use considerations into the remedy selection process for non-NPL sites.

National Cleanup Standards/Models.—Third, national cleanup models and standards can be developed based upon the clearly articulated cleanup goals. These standards and models would consist of media specific approaches and would be applied on a site-specific basis. We believe CERCLA should be amended to direct EPA to work with the States in developing these models, as many States have already developed models and have extensive experience in this area. Upon determination of the future land use, these models along with site specific variables would be used to develop realistic cleanup standards for the site, thereby answering the question of "how clean is clean *enough*?"

State Standards: As I indicated, many States (over 20) have promulgated cleanup standards which in some cases may be more stringent than Federal law. These standards are oftentimes designed to address specific geographic and climatic conditions which exist within a State. These standards along with all other applicable State standards promulgated to regulate either the conduct or operation of the remedial action are needed to adequately protect human health and the environment and should be used to the extent they are more stringent than Federally established cleanup levels.

State Waste Managers, however, do support the concept of eliminating RARs—relevant and appropriate requirements in favor of a process where States will promulgate all relevant standards, criterion and requirements in a separate rulemaking for use in the remedy selection process. We believe this will streamline the remedy selection process and provide a greater level of certainty to responsible parties.

Remedy Screening Process.—Fourth, once land use has been determined the next step in the remedy evaluation process is the remedy screening process where alternatives will be tested for both technical impracticability and disproportionate cost. *The permanence demanded by the current NCP will no longer be a required consideration.* ASTSWMO believes cost should be a consideration in remedy selection when achieving the national risk goal. This will enable remedies to be screened out which are disproportionate in cost to the overall risk reduction benefits. EPA should be directed, in conjunction with the States, to develop a definition for "disproportionate cost". If the cost to implement the remedial alternatives is determined to be disproportionate, the final site clean up level could be set at a less stringent level for which the cost of the remedial alternatives is not disproportionate.

On an additional note, as State Waste Managers we are very concerned with the prospect of applying cost-benefit analysis to each and every Superfund site within a State. We are not opposed to the concepts of relative risk and benefits, but we believe that conducting a mandatory cost-benefit analysis at Superfund sites where the cost is expected to exceed $5 million will only serve to delay the cleanup process and undermine the authority of regulators to select the most appropriate cleanup remedy. ASTSWMO's proposal advocates a national risk goal, cleanup standards and future land use, all of which incorporate the use of cost-benefit analysis in their establishment. Additionally, the ASTSWMO proposal elevates the role of cost by 1) calling for each remedy to meet a disproportionate cost test and 2) placing cost on

an equal footing with such factors as long-term protectiveness and community acceptance without placing undue burdens on State regulators to conduct lengthy and resource intensive socio and economic benefit studies. Ultimately, we believe placing an additional cost test, i.e., requiring federal and State regulators to conduct additional cost studies, will tip the scales in favor of cheaper, less protective remedies.

Lastly, one has to remember that Superfund sites are local problems and States have designed standards which specifically address local site conditions and we should be careful not to either directly or indirectly preempt these standards via the use of a cost-benefit tool.

Remedy Evaluation Process.—Fifth, if several remedies pass the technical impracticability and disproportionate cost tests, the remedies will be further evaluated against four evaluation criteria (rather than the present nine provided for in the NCP). The four criteria are: Long-Term Effectiveness; Short Term Risk; Total Costs; and Community Acceptance.

Use Restrictions.—Sixth, ASTSWMO recommends that if the remedy ultimately selected relies on land use restrictions that the following conditions apply: liability for remedy effectiveness should continue and responsible parties should be responsible for long term monitoring and operation and maintenance costs of the selected remedy. In some cases, these cleanup related restrictions may already be encompassed by existing zoning restrictions.

We believe the greatest benefit to streamlining the remedy selection process would be to grant States the authority to select the remedy at NPL sites. Generally, the U.S. EPA has interpreted CERCLA to mean that only the U.S. EPA has the authority to select a remedy, regardless of whether a State was assigned lead agency status. The current State role at NPL sites ranges from simply providing the requisite State match funds at the time of the construction of the cleanup remedy to performing response actions to the signing of Records of Decision (RODs). In those few cases where a State has signed a ROD, the remedy was being implemented by a private party and Fund dollars were not being expended. These State-lead sites may save time in the beginning of the process due to a State's streamlined assessment process, but will result in even more arduous disputes if U.S. EPA disagrees with the selected remedy at the ROD stage.

We believe that because States remediate the vast majority of the confirmed contaminated sites in this country and will continue to do so in the future, they should be granted the authority to determine the remedy at NPL sites. We understand that the purpose of this hearing is not to examine the State Role and therefore, will hold our comments on the appropriate nature of a State Role for a later date in time. We must note, however, that any benefits achieved through a streamlined remedy selection process or an enhanced State role will be tempered if we move from a system where the polluter pays to one where the public sector bears the costs of site remediation. In our view, without a strong liability scheme, changes to remedy selection and the state role will not achieve the desired results of more timely and cost-effective cleanups.

ASTSWMO LIABILITY PROPOSAL

As program managers we are deeply concerned with the potential consequences of recent proposals to eliminate the retroactive portion of the current strict, joint and several liability scheme during this Superfund reauthorization. Our reasons for this concern center on our conviction that the Superfund program, in fact all Federal and State waste site cleanup programs, must have a reliable source of adequate funds if we are to complete our responsibility to remediate these contaminated sites.

We are aware that the current CERCLA statute, as interpreted by EPA and the courts, does occasionally create inequitable situations for some responsible parties. ASTSWMO has always supported sound legislative relief for innocent landholders or lenders, for de minimis and the so called de micromis parties, and for certain categories of sites, i.e., municipal solid waste landfills. We are prepared to work constructively to assist in any reform provisions along these lines, and to support the resulting legislation. The attached Association analysis of liability demonstrates that flexibility to seek solutions. However, if the CERCLA reauthorization statute were to eliminate retroactive liability, and perhaps to restrict joint and several liability, without creating a viable and adequate source of funding to continue and complete the actual site cleanups, our members could be left with an impossible task of cleanup without resources.

We are not expert in seeking legal means for liability and certainly not in revenue raising. In our States we depend upon our executive branch and our State legislatures to refine methods of adequately and fairly funding cleanups. In CERCLA reform we rely on the judgement of the Congress and the Administration to shape this

element of the legislation, but we do ask that it be based on very rigorous review of facts, and not on wishful anticipation of nonquantifiable savings in litigation or efficiencies in process. Those might gain some reductions in costs, but do not seem designed to produce necessary cleanup funding. If Congress makes fundamental changes in liability, it will move the center of balance away from incentives for private party cleanups (i.e., voluntary cleanups and brownfields redevelopment), placing even more stress on public cleanup funds, i.e., an expanded federal program. At the same time, we see no national desire to increase those public cleanup funds through increased or broader taxation, and so we are worried that we may be overcommitting these public funds bases to compensate for liability relief given elsewhere.

We think it is also important to consider the impact such a fundamental change in CERCLA liability will have on State liability statutes. Currently, over forty States have adopted some form of the existing liability scheme and that in all likelihood changes to the Federal liability standard will be replicated on the State level. It is, therefore, not merely good enough to develop a viable funding mechanism for approximately 1300 sites, but rather to develop a funding mechanism which can address the needs of 30,000+ sites (i.e., the non-NPL universe). To date we have seen no proposal which provides realistic funding expenditures for the entire site universe. As currently practiced, CERCLA's Strict, Joint and Several liability may not be entirely equitable, but the reality is 1 in 4 Americans live near a Superfund site. Fairness also requires that they gain some relief in their situation and someone has to pay for the remediation of these sites. The common law focus on the responsibility of ownership seems essential to the continuation of these vital cleanup funds, and we urge Congress to use great caution in its necessary reform of the liability system to safeguard our continued ability to clean up these sites.

CONCLUSION

In conclusion, we believe the State Waste Managers have outlined a remedy selection proposal which will effectively streamline the program, manage resources, and return land to reproductive use in the shortest time period possible. Thank you for your consideration.

Mr. OXLEY. Thank you, Mr. Eden.

Mr. Parr.

STATEMENT OF MICHAEL S. PARR

Mr. PARR. Good afternoon, Mr. Chairman, members of the committee. My name is Michael Parr and I am a remediation program manager with the DuPont Company. I have more than a decade of experience with the Superfund and site remediation, having supervised DuPont's remediation activities at more than 100 sites worldwide. I am pleased to be with you this afternoon to testify on behalf of CMA, the Chemical Manufacturers Association.

Superfund reform is a top priority for CMA, and the place to start is by overhauling the process for selecting remedies to make this program faster, more effective, and fully protective.

We believe that it is critically important for Congress to fix Superfund this year, in the absence of fundamental reform, we cannot support any extension of the taxing authority beyond 1995.

As you know, Mr. Chairman, CMA supported last year's efforts to reauthorize Superfund. Those bills contained many sensible reforms, but some provisions were overly complex and unduly limited site-specific decisions. We can do better. We can and should do more to make the program more risk-based, more efficient, and more cost-effective without sacrificing protectiveness. Bills such as H.R. 1022 point the way.

A team of remediation specialists from CMA member companies has developed a plan to improve the Superfund remedy selection process. It is a plan grounded in our years of hands-on experience with the program. CMA's plan focuses on the fundamental flaws of

the current law. We continue to encourage you to make Superfund truly risk-based by eliminating the law's current preferences for permits and treatment as well as the ARAR's mandate.

These aspects of the law, along with EPA's unrealistic approach to risk assessment, are some of the chief reasons for the sorry state of Superfund today.

A site I worked on in New Jersey well illustrates this point. At this site, EPA decided to dig and burn a large volume of sludge in order to satisfy ARAR's. A risk assessment was never performed to determine an appropriate remedy. We are convinced it would have shown that a containment remedy for both the sludge and the groundwater would have been fully protective of human health and the environment. Instead, EPA has spent $150 million to date to incinerate the sludge, and the job is barely half done.

Now EPA says that after the incineration is complete, an additional remedy, perhaps containment, will still be required for the groundwater. This is a classic example of the ARAR's mandate driving huge expenditures with little commensurate return in terms of health benefits.

Like ARAR's, the law's preferences for permits and treatment serve to drive EPA to search for the most expensive option available regardless of the actual risk at the site. CMA's remedy selection plan would redirect Superfund away from wasteful and ill-advised remedies and towards faster and more efficient solutions. Remedies should be dictated by real risks to real people at real sites.

We propose remediating sites in a rational, thoughtful manner, not by following an inflexible, one-size-fits-all approach.

H.R. 1022 articulates a sound approach to risk assessment, but CERCLA itself must be reformed as well. Let me emphasize four important reform elements.

First, remedies must be tailored to a specific site based on realistic assumptions of risk and realistic considerations of land and water resources use.

Next, artificial impediments to site-specific risk-based decisions should be eliminated by abolishing the law's preferences for treatment and permanence as well as the ARAR's mandate.

Then, Superfund should explicitly seek the most cost-effective remedy that provides long-term protection for people and the environment.

Finally, the roles of the Federal Government, the States, and the local community in Superfund should be clarified. Better decisions and faster cleanups are the norm and residents take part in the remedy selection process.

Clarifying the roles of the Federal and State agencies in keeping disagreements between them to a minimum will also benefit the program.

Mr. Chairman, we estimate that our reforms can cut cleanup costs by more than 35 percent while fully protecting people and the environment. It is worth noting that the Department of Energy recently said that almost $300 billion taxpayer dollars can be saved by employing risk-based remedies at DOE sites rather than relying on Superfund-like cleanups.

In closing, I urge this committee to consider our reform plan, and I urge you to make every possible effort to make Superfund reform a reality in 1995. CMA stands ready to assist in that effort, and I look forward to your questions. Thank you.

[The prepared statement of Michael S. Parr follows:]

PREPARED STATEMENT OF MICHAEL S. PARR ON BEHALF OF THE CHEMICAL MANUFACTURERS ASSOCIATION

I. INTRODUCTION

Good morning Mr. Chairman and Members of the Subcommittee. My name is Michael Parr. I am a Remediation Program Manager at DuPont. I have lived with the reality of Superfund and site remediation for over a decade, working on or supervising DuPont's remediation activities at more than 100 sites, in both the United States and other countries. I'm here today to testify on behalf of CMA, the Chemical Manufacturers Association

CMA is a nonprofit trade association whose member companies represent more than 90 percent of the productive capacity for basic industrial chemicals in the United States. Today the manufacturers of chemicals and allied products provide approximately 1.1 million jobs for American workers; are the number one R&D industry in the United States, investing nearly $18 billion per year; and are the leading U.S. exporters with total exports in 1994 of approximately $52 billion and a net surplus of almost $19 billion.

CMA's members have a big stake in Superfund. They pay more than 25% of the taxes that make up the Hazardous Substance Superfund, and are involved in cleaning up numerous sites throughout the country that need remediation due to past disposal practices—many of which were legitimate at the time, insolvency, or neglect. Often our members are involved in remediating sites, not because they were the owner, operator, or even a major contributor of waste to them, but because they are perceived as a "deep pocket." Consequently, our members have devoted enormous resources implementing Superfund to remedy problems that they are often only incrementally responsible for creating.

CMA and its member companies have a broad range of experience with the program that is second to *none*. We are leaders in trying to make Superfund work like both we and the public want.

Last year, CMA was front and center in the legislative arena, trying to reform Superfund. Last year's deliberations were an important step in the national debate over Superfund. They produced a bill that significantly reformed Superfund. But it didn't do everything that was needed.

This year, the House has already passed H.R. 1022. This too is a step forward. It adopts basic core principles for prioritizing governmental activities, properly evaluating risks and communicating these risks to the public, and deciding what actions to undertake. But Superfund needs more.

To make Superfund work properly, Congress needs to allow the program to devise remedies that protect human health and the environment through smarter and more cost-effective solutions. And Congress needs to reform the law *now*. Every month that goes by without reauthorization means more flawed remedy decisions, more litigation resulting from an inequitable liability scheme, more controversy between the public and EPA, and more wasteful spending by both the government and private parties—all of which detracts from the effective remediation of hazardous waste sites. Proper reform will result in greater progress toward the program's primary objective: protection of human health and the environment at reasonable cost.

CMA strongly urges that the legislative process move forward swiftly. We are looking forward to working with the Chairman and Members of this Committee, and other stakeholders to make it happen this year. We know that it is a formidable task. But working together we believe that we can do it if we try. Absent fundamental reform, CMA cannot support extending Superfund's taxes beyond their expiration at the end of 1995.

II. KEY PRINCIPLES OF REMEDY SELECTION REFORM

Let me turn now to some of the broad themes of remedy selection reform. In the heated debate over how to reform Superfund, liability issues sometimes overshadow remedy selection. While CMA believes liability reform is important, remedy selection remains the primary key to truly significant reform.

Remedy selection reform can result in fully protective remedies that are more cost-effective than under today's program. It can reduce cleanup costs by some 35% or more, saving billions of dollars while still protecting human health and the environment.

We have four key principles for remedy selection reform. *First, Congress should require site-specific remedies based on plausible and realistic risk assessments that reflect the actual or planned future uses of the land and water resources.* This means focusing on both current risks and those that are reasonably likely to occur in the future, rather than hypothetical risks that are remote and highly speculative. These concepts are thoughtfully articulated in the risk bill that this body has developed.

Second, Congress should eliminate several provisions in the law that create artificial impediments to sound, site-specific, risk-based decision-making. These provisions include the current preferences for treatment and permanence and the use of ARARs ("applicable or relevant and appropriate requirements").

Third, Congress should revise Superfund to explicitly require selection of the most cost-effective remedies that are protective of human health and the environment. Some may think this is an academic point since the current law already calls for cost effective remedies. However, Superfund is operating based on directives from EPA Headquarters in Washington that essentially remove cost-effectiveness considerations from the program. If EPA's interpretation of the statute is to change, Congress needs to send a new, strong, and clear message on cost-effectiveness in the law, and make it a threshold criterion.

Fourth, as Congress moves to reform Superfund, it should carefully consider the roles of the federal government, the states, and the public. The experience of CMA's member companies is that when the local community has meaningful input in the remedy selection process, the result is better decisions and faster cleanups. Dialogue with those who are most effected at the local level is a fundamental part of CMA's Responsible Care® initiative. We believe that community involvement has been a big reason for the success of our Responsible Care® program. Superfund will also run more smoothly when the roles and responsibilities of the state and federal government are clear and disagreements between them are kept to a minimum. It is neither easy, nor productive, for PRPs to attempt to satisfy "two masters" who have different expectations for the same site.

III. PARTICULAR REMEDY SELECTION REFORMS

At this point, I'd like to address a number of remedy selection issues in greater detail, particularly (1) risk assessment and risk communication, (2) the preferences and ARARs, (3) groundwater, (4) reopeners, (5) site prioritization, and (6) judicial review of remedy selection decisions.

Risk Assessment and Risk Communication. The fundamental building blocks for a successful remedial program must be a realistic assessment of the risks posed by Superfund sites and good communications of those risks to the public—the kind of risk assessments and communication called for in H.R. 1022. The single most important policy underlying these reforms is the recognition that *risk assessments should be based on actual exposure pathways or reasonably anticipated future exposure pathways, including consideration of actual or planned future use of land and water resources.* The key elements of sound risk assessment include: analyzing real or plausible exposure pathways, including actual or planned future use of land and water resources, instead of hypothetical pathways; using site-specific data in preference to default assumptions; and, using an acceptable range of realistic and plausible default assumptions where necessary instead of high-end or worst-case assumptions.

The core elements of risk communication include: presenting a range and distribution of risk estimates, including the most plausible estimate of risk; clearly explaining all assumptions used in the risk assessment; and describing risks by comparing the risks from Superfund sites to other risks commonly experienced by members of the community in their daily lives.

In its report, "Exaggerating Risk,"[1] the Hazardous Waste Cleanup Project, of which CMA is a member, concluded that today's Superfund program often bases remedies on overly conservative risk assessments that assume wholly hypothetical exposure pathways that do not exist and are unlikely to occur. For example, Superfund risk assessments have often assumed residential use of the contaminated groundwater, with residents using such water as their *sole* source of drinking water for *several decades*—even though the site may be used for industrial purposes for

[1] Hazardous Waste Cleanup Project, "Exaggerating Risk: How EPA's Risk Assessments Distort The Facts At Superfund Sites Throughout The United States," June 1993.

the foreseeable future and no one will drink the water. When risks are quantified on the basis of fanciful assumptions like this, and cleanup levels driven by this scenario are selected as "necessary" to protect the public, the public is misled, overly costly remedies result, and the credibility of the entire program is undermined. While EPA is taking steps to improve their risk assessment process, statutory change is clearly necessary to ensure reform.

The Swope Oil and Chemical Company site in Pennsuaken, New Jersey, is an example where land use assumptions in the risk assessment were totally disconnected from the reality of the site. EPA justified the need for soil vapor extraction at Operable Unit Two based on the presence of groundwater contamination at levels above drinking water standards. The Record of Decision stated that "[t]he quantitative risk characterization suggests that unacceptable non-carcinogenic and carcinogenic risk under current or future land-use conditions would exist if the shallow aquifer was utilized as a potable water source in the vicinity of the site." In reality, there are no drinking water wells near the Swope site and they are not likely in the foreseeable future. The area is highly industrialized and New Jersey has banned new wells in this region because of problems with salt water intrusion.

Last year's bill made progress toward reforming the risk assessment process, but still placed too many barriers in the way of using valid site-specific data in risk assessments. It also would have inappropriately substituted CERCLA's risk management range with a single "bright line" risk goal.

The risk assessment provisions of H.R. 1022 incorporate the key elements of sound risk assessment and risk communication and would result in dramatic improvements in the federal risk assessment process, including the Superfund risk assessment process. This is a major step in the right direction, *but it is by no means all that is needed to reform Superfund's remedy selection provisions.* Congress should enact reforms that are specifically tailored to the Superfund remedial program.

Preferences and ARARs. Both ARARs and the preferences for permanence and treatment artificially tilt the remedy selection process toward more costly remedies than are necessary to protect human health and the environment The selection of remedies should be governed by realistic assessment of risks, considerations of technical practicability, reliability, cost-effectiveness and reasonableness of cost, and community acceptance—not by artificial preferences and standards.

Remedies based on institutional and engineering controls should be considered on an equal footing with treatment-based remedies. These controls typically assure that contamination cannot migrate out of the containment area, while also imposing safeguards to prevent human exposure to substances within the containment area. Remedies incorporating such controls are both protective and cost-effective in many circumstances.

Today, even when EPA incorporates elements of engineering and institutional controls into remedies, treatment is also typically required to satisfy the statutory preferences—and often in a manner that adds significant cost without commensurate benefits. This is requiring treatment for treatment's sake. The selection of remedial technologies, including treatment, should be applied where they make sense—not because of an arbitrary "preference."

For example, at the Petro-Processors site near Baton Rouge, Louisiana, EPA initially directed the PRPs at the site to excavate large quantities of soil containing volatile organic compounds, treat them where needed, and to entomb them in a specially constructed vault. The companies involved pointed out that excavating the contaminated soil would allow organics to escape into the air, exposing workers and the surrounding community to much higher levels of contaminants than would occur using engineering and institutional controls such as stabilizing, hydrologic containment, and "capping" the site, and recommended this approach.

But EPA concluded that stabilizing, containing, and capping would not meet the law's goal of "treatment" and "permanence." So, in 1987, the PRPs built the vault and began excavating. According to EPA's own report, "activities at the site halted abruptly when they led to air emission problems." EPA and the other parties involved studied the problem and selected a new cleanup remedy: the exact plan that the PRPs proposed in the first place! The only difference is millions of dollars—and time—wasted in fruitless pursuit of a "permanent" solution.

Last year's bill, while eliminating the preference for treatment in general, still included an unnecessary and costly mandate to treat so-called "hot spots." Although many remedies will combine elements of both containment and treatment, we do not believe that Congress should *mandate* a treatment preference because it would serve as a barrier to sound site-specific decisions and often drive wasteful and inappropriate remedies.

Turning to ARARs, CMA believes that the hallmark of a good remedy is that it protects public health and the environment by reducing risk at the site in ques-

tion—not that it meets some generic abstract numerical standard developed for an altogether different purpose.

An example is the Macon/Dockery Site in rural North Carolina, where there is a low level contamination of the aquifer. There is no use of this groundwater and intrinsic remediation is naturally lowering contamination to levels below the ARAR driven target levels. Nonetheless, EPA is requiring that a pump and treat remedy be installed to achieve ARARs through treatment—a typically wasteful ARAR driven remedy.

CMA urges the Subcommittee simply to eliminate ARARs from the Superfund law.

Groundwater. Another thorny issue in the Superfund program is how to address groundwater that has become contaminated. Discussions by many stakeholders last year reached an uneasy resolution to this issue—a needlessly complex set of provisions—that no one appeared very comfortable with, *after* H.R. 3800 left this Committee.

CMA fully supports *protection of usable* groundwater from contamination. Once contaminated, however, the technical challenges and high costs involved in cleaning up groundwater must be recognized and our remedial decisions made more thoughtful. All too often, Superfund requires massive expenditures on long-term treatment projects designed to make the groundwater as clean as household tap water. These decisions are made without regard to the current or likely future use of the groundwater. We must also recognize that attempting to restore contaminated groundwater is often technically infeasible or could require hundreds of years to achieve.[2]

Superfund should address remediation of groundwater contamination on the same risk basis as other media and not—like current law, or last year's bill—in a separate manner. If the contaminated groundwater is likely either to be used for drinking water, or may contaminate a source of drinking water, and a realistic risk assessment indicates that contamination poses unacceptable risks, then a remedy should be selected to address that risk using the same criteria that govern other remedy selection decisions: protectiveness, technical practicability, reliability, cost, and community acceptance. Depending on the circumstances, including the timing of groundwater use, the remedy could involve conventional pump-and-treat technology, point-of-use treatment, or natural attenuation, to name just a few of the options.

Reopener. CMA urges Congress to ensure that as many sites as practicable get the benefit of the Superfund reforms that are enacted as part of the reauthorization process. It does not make sense to recognize that Superfund is broken and reform the law to stop wasting money, but then not apply those reforms to past, flawed remedy decisions where mistakes could still be corrected. For this reason, Congress should require the Administrator to apply the reauthorization reforms at sites where revised remediation requirements would be cost-effective. *This is a critical issue; billions of dollars are at stake.*

Site Prioritization. Given the steep costs of Superfund, it is essential to focus program expenditures on those sites most in need of attention on a nationwide priority basis. Sites that pose the greatest risk generally should be first in line for remedial actions. Unfortunately, that is not how the program operates today.

Under current law, EPA uses the Hazard Ranking System ("HRS") to score candidate sites for placement on the National Priorities List ("NPL"). Despite their names, the HRS and the NPL do not provide any meaningful basis for setting priorities among listed sites. The purpose of carrying out the HRS scoring is simply to list the site on the NPL in order to make it eligible for federally-funded remedial action—no to assess the degree of risk it actually poses. Once a site is listed, the HRS score does not play a role in the sequence and timing of remedial actions at NPL sites.

In addition, the HRS scoring process often ignores the current condition of the site and scores it based on previous conditions that no longer exist, such as wastes that have been removed from the site or a day care center near the site that has been closed.

EPA should use sound risk assessment principles to enhance the usability of the HRS scoring process. Sites should also be scored to reflect any risk reduction measures that may have been implemented before their initial scoring. These reforms could make the resulting HRS scores, and the NPL rankings of individual sites, useful points of comparison for setting national priorities for future Superfund expenditures.

Timing of Judicial Review. In 1986, Congress amended Superfund to prohibit judicial review of challenges to remedies chosen by EPA until work at the site was

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[2] Committee on Groundwater Cleanup Alternatives, Water Science and Technology Board, National Research Council, Alternatives For Groundwater Cleanup, (1994).

complete, or until EPA filed an enforcement action in federal court. The intent of this ban was to avoid having cleanups delayed by wrangling over who should pay for the work. But the result has been to insulate all remedy decisions, good or bad, from judicial review until it is too late. *That ban should be lifted.*

Because preenforcement review is not available, PRPs face an extraordinary dilemma at sites with costly and controversial remedies. They may refuse to settle with EPA, preferring to preserve their rights to challenge the remedy in court at some future date. This approach often leads to protracted litigation, high transaction costs, and years of uncertainty. In addition, courts know that any decision they make that favors the PRPs cannot avoid unnecessary costs since, by the time the court hears the remedy challenge, the Agency has issued a unilateral order, money has already been spent and the remedy cannot be changed without *additional* cost—even if the challenge is upheld.

Altematively, the PRPs can settle with EPA and give up their right to have the remedy reviewed by a court. This lowers the PRP's costs in the short term, but it means higher costs throughout the Superfund program in the longer term because so few EPA selected remedies are subject to judicial review. Thus, both the PRP and the program lose.

There is no reason to bar preenforcement judicial review altogether. As several courts have recognized, EPA actually benefits by knowing early on—when there is still time to modify the remedy and mitigate the contested expenditures—whether its selected remedy is likely to be upheld. That information may well help the parties to reach a settlement. In addition, by allowing meaningful judicial review, Congress may ensure that EPA will make better remedy selection decisions.

In closing, we commend this subcommittee for holding this hearing to address what we believe are the most fundamental problems with the current Superfund program. CMA stands ready to work with this Subcommittee and its staff in order to help solve those problems, with the goal of completing Superfund reauthorization this year.

Thank you, Mr. Chairman. I will be pleased to answer any questions.

Mr. OXLEY. Mr. Trunek.

STATEMENT OF ROBERT TRUNEK

Mr. TRUNEK. Good afternoon. My name is Robert Trunek, and I am ARCO's Vice President for Environment, Health and Safety, and I also serve on the National Association for Manufacturers Environmental Staff Committee.

I wish to thank the chairman and the members of the committee for providing this opportunity for the NAM and for ARCO to present testimony today regarding the current Superfund remedy selection process.

In the interest of time, I will limit my remarks to describing three case studies of sites where ARCO is involved which show how the current remedy selection process is enormously wasteful and substantially delays cleanups.

These abuses could largely be eliminated if Congress adopted the NAM's recommendations. I ask that the NAM's and ARCO's more extensive written comments be included in the record.

Mr. OXLEY. Without objection.

Mr. TRUNEK. The National Association of Manufacturers is a voluntary business association of more than 13,000 corporations, both large and small, which produce over 80 percent of the Nation's goods, and employ nearly 85 percent of the manufacturing workers. ARCO is a member of the NAM.

The first comparison I would like to make is between two sites, both handling petroleum refinery wastes, very similar wastes at each site. One is in Vinita, a State lead site in Oklahoma. The second is McColl, a Superfund site in California.

As I say, the waste concern is similar to acid tar sludges which are residual from petroleum refining processes. Cleanup at Vinita

is now complete. At McColl, the cleanup has not even begun. The primary reason for the major difference in both cost and schedule at these two sites is the unworkable remedy selection process currently employed in Superfund.

Vinita, the material was treated, landfilled and capped, cost $100 per cubic yard, and the cleanup was complete 3 years after the issue was addressed, was initially addressed.

McColl, on the other hand, has been active for over 10 years. We have already spent over $900, or 9 times as much, to cleanup the same material at McColl. As I say, cleanup has not yet begun. When cleanup is complete, which we expect will be as much as 20 years from its inception, twice that amount will be spent.

Interestingly, the EPA's risk assessment showed very low risk, less than 1 in a million for this site. Ten years ago, the PRP's came together and proposed a cap which would completely eliminate even this minor risk in the area. That remedy could have been completed, but due to the preference for treatment, it was rejected by the EPA initially. Studies were conducted, the studies costing more than the remedy itself would have cost, and the public in the immediate vicinity, the neighborhood which was built up after the site had been initially developed, has created problems for treatment alternatives.

Consequently, treatment alternatives have been studied and, at this point, it looks like no treatment alternative will be acceptable and a cap will ultimately be employed at the site, as I say, which was proposed 10 years ago and could have been completed by now.

So McColl, which has been active for over 10 years, already spent nine times as much as we did in Vinita, treatment has not yet, or remedy has not yet begun, represents a stark contrast to Vinita where the treatment is complete, and whatever risk has been eliminated to the population.

The second case deals with groundwater at Wellsville, New York. Once again, it is a case where the preference for treatment, in this case ARAR's, presented a major difficulty. The ROD directs a groundwater cleanup to reduce benzine contamination. This is to an aquifer that has not been used, is not currently used, nor is ever expected to be used for drinking water.

The site is, however, located on the banks of the Genesee River, and the Genesee River is used as a drinking water source for a local community. The intake for that drinking water is, however, taken upstream of this site.

Because of natural attenuation and dilution at the site, there is no detectable benzine in the groundwater at the bank of the site where the groundwater would enter the river. EPA acknowledged that a pump and treat would not be effective, but in order to meet State ARAR's, EPA issued a $14 million pump and treat ROD. It was not expected to be any more effective than natural attenuation but, nevertheless, was required. The EPA could have and should have, but refused, to issue a technical impracticability waiver.

The third case is the Montana Pole Plant site, it is about a 40-acre site located on the Silver Bow Creek.

Mr. OXLEY. Would you summarize, Mr. Trunek.

Mr. TRUNEK. I would be happy to.

At the Montana Pole Plant site is a terrific example of the failure of administrative reform to actually be engaged in the real world.

In conclusion, I hope these examples clarify the need for significant changes in Superfund remedy selection. We believe that the current selection process is not only obscenely wasteful, but also delays cleanups in direct contradiction of legitimate objectives of the program.

We would be delighted to have you visit these sites, or share with you other examples of sites that would show how the cost and serious delay of this seriously flawed Superfund Program requires massive change.

Thank you.

[The prepared statement of Robert Trunek follows:]

TESTIMONY OF ROBERT TRUNEK, ON BEHALF OF THE NATIONAL ASSOCIATION OF MANUFACTURERS

Mr. Chairman and Members of the Subcommittee: My name is Robert Trunek. I am Vice President of Environment, Health and Safety for ARCO. I am presenting my testimony to you on behalf of the National Association of Manufacturers ("NAM"). The NAM is a voluntary business association of more than 13,000 corporations located in every state. Its membership ranges in size from very large businesses to more than 9,000 small manufacturing firms. NAM member companies produce over 80 percent of the nations' goods and employ nearly 85 percent of all workers in manufacturing.

On behalf of the NAM and ARCO, I would like to thank you for the opportunity to testify today on issues related to remedy selection under the current Superfund program.

In the interest of time, I will summarize our written remarks. I respectfully request that the full text of the NAM testimony and ARCO case studies be submitted for the record.

As a membership driven organization, the NAM has placed considerable priority on Superfund reform-related activities. In 1988, the NAM first formed its Superfund Working Group expressly to bring together the experience and expertise of our membership as constituents of the regulated community under the Comprehensive Environmental Response, Compensation, and Liability Act ("CERCLA" or "Superfund"). As stakeholders with substantial technical and practical experience, the NAM has actively participated in all aspects of the Environmental Protection Agency's ("EPA") effort to implement a more effective Superfund program.

While I have already alluded to the diversity that exists among both business and regional interests within the NAM, possibly the most universally shared understanding of our membership is that the current Superfund program is not working. Likewise, we agree that the Superfund program is in need of reforms much greater than can be accomplished through limited, regulatory fixes. The NAM strongly believes legislation is required to correct the flawed statutory scheme established under the CERCLA.

Last year the Congress considered legislation (H.R. 4916, "The Superfund Reform Act of 1994") on a fast track, discouraging serious debate throughout the process on several issues of critical importance to NAM members. The NAM was concerned that H.R. 4916 did not improve the Superfund law in certain areas, particularly with regard to groundwater cleanup. As the 104th Congress deliberates to reauthorize this complex, costly and controversial program, the NAM is committed to working with you to enact in the 104th Congress what was not possible in the 103rd Congress—responsible Superfund reform legislation that is simple, fair, efficient and protective of both human health and the environment and that recognizes the many demands on our nation's limited resources.

For the last several months, our Superfund Task Force (formerly the Superfund Working Group), Chaired by Dr. Robert Ottinger of TRW Inc., has been meeting regularly to develop guiding principles for Superfund reauthorization legislation. As a result we have proposed what we consider to be "Essential Elements for Superfund Reform." A copy of our principles statement entitled *Risk Reduction at Contaminated Sites* is provided for your convenience at the end of our written comments. For the purposes of the hearing today, I will focus on those recommendations relating specifically to remedy selection and cleanup standards. I will begin with cost.

COST

Remedy selection must be redesigned to reduce unnecessary costs. The top priority of Superfund reform must be to redirect public and private resources toward cleaning up the nation's most dangerous hazardous waste sites as quickly as possible. If allowed to continue without change, the current Superfund program is likely to cost the nation as much as $151 billion over the next 30 years. (Sticker Shock: Recognizing the full cost of Superfund Cleanups, Hazardous Waste Cleanup Project, June 1993, Washington, D.C.). The Congressional Budget Office ("CBO") estimates that the current program could reach $75 billion for the cleanup costs of as many as 4,500 non-federal Superfund sites across the nation. *(The Total Cost of Cleaning Up Nonfederal Superfund Sites,* CBO (Washington, D.C.: Jan. 1994)). Of the 1,300 sites on the National Priority List ("NPL"), cleanup costs have been projected to exceed $27.2 billion. Depending on which study is cited, the average cleanup cost per site ranges from $25 million to as high as $40 to $50 million. With a price tag more than the total U.S. expenditures budgeted for all other disease and high risk injury reduction programs combined—including HIV/AIDS research, it is clear that for the value, we are spending too much for too little in return. No Superfund reauthorizing legislation should be enacted by this Congress without addressing the need to ensure that remedies are cost effective and address actual risk.

In addition to cleanup costs, CBO estimates that 27 percent of all federal and private Superfund spending goes toward transaction costs—such as those incurred in assigning, allocating, and disputing responsibility for cleanup—rather than in the actual cleanup itself. Based on best available data, federal transaction costs range from $250 to $300 million, or 15 to 18 percent of the 1994 Superfund budget, while non-federal interests spend as much as $900 million annually, or 32 percent of total annual outlays. Of that 32 percent, Potentially Responsible Parties ("PRPs") spend 17 to 20 percent of their total outlays on transaction costs, while insurers spend approximately 24 percent annually.

Transaction costs waste resources that the law never intended to be diverted from actual cleanup. Congress must correct schematic efficiencies that unnecessarily drive up the cost of remediation.

RISK

When Congress first enacted the Superfund program in 1980, it required the Environmental Protection Agency to establish cleanup priorities for the nation's hazardous waste sites. The statutory goal of Superfund as provided in Section 104(a)(1) of the Act requires the Administrator to take steps "necessary to protect the public health or welfare or the environment." The EPA has interpreted this standard to permit the use of a risk range for carcinogenic risk between one in ten thousand and one in one million. This extremely broad risk range allows the EPA to consider site specific factors in determining cleanup levels, but all too often by selecting remedies which cost far more than the benefits provided in terms of actual risk reduction.

In comments released by the General Accounting Office on April 5, 1995, the risk assessments made by the EPA at National Priority List sites frequently tend to underestimate or overestimate the real risk potential for human exposure to contamination. According to the GAO's analysis of "The Role of Risk in Setting Priorities" at NPL sites:

> ...when EPA lacked sufficient data about the risk from a person's touching contaminated soil, some of its risk assessments provided no estimate of that risk, while others attempted to develop an estimate by using data that were available. Assumptions about the future use of sites also varied among the risk assessments, even though the characteristics of the sites were similar. Whether the sites are used for industrial or residential purposes is a major factor in determining the level of people's exposure to contamination and, consequently, the risk posed by these sites.

It should be noted that contamination can only pose a risk if someone is exposed to it. Where exposure to contamination is addressed during emergency removals, little residual risk remains. The NAM strongly supports the continued employment of emergency actions to eliminate serious risks, as provided for in existing Superfund law (CERCLA Section 106). In addition to emergency response actions, the NAM supports the use of cost-effective approaches to remedy selection which meet the goals of the Act through balanced consideration of all viable cleanup options. For instance, measures such as institutional controls, including industrial zoning and deed restrictions on future land use, which protect against human exposure to ac-

tual health risks at a relatively low cost, should be given equal consideration to other remedy options such as treatment and containment.

Where risk to human health and the environment is real, it is imperative that early, adequate and appropriate public participation be incorporated into the remedy selection process. Without full public participation at critical stages of the decision-making process, public perception of actual and potential risks can become over-exaggerated. Inaccurate information about real risk drives up remediation costs and undermines public support for rational, risk-based remedial action.

Generaly, the NAM supports more consistency in determining cleanup standards as well as in setting cleanup priorities. However, Congress should be cautioned against imposing a single, national risk level or any single concentration level for hazardous substances. The NAM would not support single numerical risk numbers for chemical carcinogens and non-carcinogens, as proposed last year, particularly without the requirement that such goals be technically feasible and cost effective.

Site specific factors and anticipated future use of both land and groundwater must be considered in hazardous waste risk assessment, establishment of cleanup standards and remedy selection. While possibly providing a higher degree of certainty in the current process of remedy selection, generic cleanup standards or presumptive remedies may, in effect, diminish the overall flexibility a risk range of perhaps 10^{-4} to 10^{-6} would allow in determining cleanup remedies on a site-by-site basis.

In development of Superfund reform legislation, Congress must design realistic remediation standards based on actual risk, not hypothetical or speculative risk. In addition, remedy selection must use cost-effective methodology derived from scientifically based risk analysis. The NAM supports principles of risk assessment and cost/benefit analysis. It will not support, however, remedy selection principles that do not promote and employ both innovative and cost-effective technologies while ensuring long-term cleanup reliability.

APPLICABLE OR RELEVANT AND APPROPRIATE REQUIREMENTS (ARAR'S)

Once the EPA has made the determination that a contaminated site poses a threat to human health and the environment, the Agency commences an implementation plan to determine the level of remediation required to meet the goals of the Act. During consideration of the Superfund Amendments and Reauthorization Act of 1986 ("SARA"), Congress included an additional requirement that remedy selections comply with "applicable...or relevant and appropriate" federal or state standards for limits on environmental contamination of soil, groundwater, surface water, air or sediments.

Congress included the new CERCLA Section 121(d)(2)(A) requirements to ensure that other federal and state laws that apply to hazardous waste remediation be complementary and consistent with the goals of Superfund. However, in practice, ARARs have generally proved to be inefficient and a deterrent to quick and cost-effective cleanup without substantial benefit to human health and the environment. Far too often, ARARs, which are generic cleanup standards, dictate the nature and extent of a cleanup measure without regard to site-specific risk factors and conditions. As currently mandated, ARARs result in costly and technically infeasible remedies.

During consideration of Superfund reauthorization legislation in the last Congress, the Administration's legislative specifications identified ARARs as a principal cause of delay in cleanups because of disputes arising among regulators over their interpretations. To correct such regulatory inefficiencies, the Administration's recommendations for Superfund reform proposed to replace ARARs with a national Superfund specific health standard. Congress should remove any statutory requirement that ARARs be used. In states that have passed laws requiring more stringent cleanup standards than required under federal law, Congress should direct that the incremental cost of remediation be funded by the state.

PREFERENCE

In addition to the ARARs requirement, SARA created preferences for permanence and treatment in remedial action. Section 121(b)(1). Such preferences diminish flexibility in designing cost-effective, site-specific, technology-based remedy selection. Preferences often preclude other remediation options such as containment of hazardous waste even when such action would provide the highest level of protection of human health and the environment for the least cost. Preference for remedial action that includes treatment of contaminated material without providing any additional real risk reduction is excessive over-regulation that undermines public awareness of what constitutes true environmental risk. Likewise, statutory and regulatory re-

quirements for permanent remedies skew public perception of real risk in addition to being economically inefficient.

In a December 1991 report of the University of Tennessee entitled *Hazardous Waste Remediation: The Task Ahead,* cleanup costs were projected for remedy selections at NPL sites assuming the same concentrations of contamination and no significant difference in ultimate impact on human health and the environment. The cost of containment and isolation of wastes was compared to remediation involving destruction and treatment of waste. By moving away from the current treatment approach to containment of waste, the study showed an estimated $61 billion in savings while fully complying with the goals of the Superfund Act.

Congress should remove the statutory bias toward preferences that do not require the consideration of cost in remedy selection and, thereby, allow the use of equally viable, but cost-effective remedies which meet the goals of the Act. The NAM also supports the concept of remedial response criteria that weigh cost equally with other considerations, as provided in last year's H.R. 4916. The NAM will be glad to work with Congress in identifying specific response criteria.

GROUNDWATER USE

The EPA and many states assume that virtually all land will potentially be used for residential purposes and that all groundwater will be used for drinking water. Such ultra-conservative risk assumptions generate unnecessarily stringent cleanup standards requiring costly remediation without commensurate benefits to human health and the environment.

Currently, CERCLA Section 121(d)(2)(ii) requires that remedial actions for contaminated groundwater at least attain health-based goals established under the Safe Drinking Water Act ("SDWA") and water quality criteria established under the Clean Water Act (Section 304 or 303) "where such goals or criteria are relevant and appropriate." The EPA has identified Maximum Contaminant Levels [(MCLs)] and non-zero Maximum Contaminant Level Goals [(MCLGs)] as the relevant and appropriate cleanup goals for contaminated groundwater. In addition, the National Contingency Plan ("NCP") establishes an expectation that remedial action will "return usable ground waters to their beneficial uses within a timeframe that is reasonable given the particular circumstances of the site." Generally, groundwater that is currently used for drinking water is cleaned up to the SDWA enforceable standards (MCLs) or, in some cases, more stringent state standards.

Congress must recognize that not all groundwater is a potential source of drinking water requiring remediation to meet drinking water standards. Contaminated groundwater remediation is commonly the largest, and in many cases, least cost-effective cleanup expenditure companies make. The cost to install state-of-the-art treatment technology such as pump-and-treat systems can range from half a million dollars to ten million dollars. Operation and maintenance costs may run from one hundred thousand dollars to five million dollars per year. Even when using pump-and-treat systems, it will often take decades—if not centuries—to achieve drinking water standards. The cost of removing small quantities of contamination from large volumes of groundwater should be weighed against risk reduction benefits. As with anticipated land use criteria, reasonably anticipated use of groundwater as well as the timing of use should be considered in determining both the appropriate cleanup level and the remedy selection.

The National Research Council, in its June 1994 report "Alternatives for Groundwater Cleanup," does not limit viable groundwater remediation options only to technological treatment.

> Natural attenuation may be acceptable for some zones where it can be shown that natural biological, chemical and physical processes will lower contaminant concentrations to cleanup goals before the contaminant reaches the receptors; it may also be acceptable for groundwater that discharges into surface water bodies where it can be demonstrated that the groundwater will not be used and the resulting concentrations in the surface water body will be below acceptable standards.

Remedy options should include, but not be limited to treatment at the wellhead or tap, natural attenuation, containment, in-ground treatment, or any other technically and economically feasible remedy, institutional controls or combination of remedies.

CONCLUSION

While remedy selection is only one component of the Superfund program to be considered for reform by this subcommittee, it is integral to the success of

Superfund reform legislation. Remedy selection is also a particular priority of the National Association of Manufacturers. Without a significant effort on the part of Congress to restructure current provisions contained in Title I of CERCLA, the NAM cannot endorse—as it did not last year—a Superfund reform proposal that misses the mark.

I have presented to you today our views on several of the larger issues contained within the broader topic of remedy selection. There are additional issues as well, on which I and the associated members of the NAM will be glad to work with the subcommittee during the course of developing meaningful legislation.

At this time, I would like to thank you for the opportunity to testify, and I will be glad to respond to your questions.

Mr. OXLEY. Thank you.

Ms. Smith.

STATEMENT OF VELMA M. SMITH

Ms. SMITH. Thank you, Mr. Chairman. Good afternoon.

I have submitted a longer statement to the subcommittee which I would request be entered into the record. Now I will attempt to touch on only a few critical points.

I would start by asking the committee to keep in mind Superfund's successes.

First, Superfund with its tough liability standard has raised the standard of environmental care throughout the country. Working without the paperwork, without the rigidity of regulation, Superfund, through a compelling market incentive, has helped to spawn a growth of environmental audits, environmental compliance consulting, pollution prevention initiatives and improved environmental control technologies.

Second, the emergency removal program has been critical in protecting communities.

Third, in an area of strong personal interest, since I have worked for many years on groundwater issues, I would like to point out that it is our Superfund program and its commitment to forging ahead with groundwater cleanup that must be given the lion's share of the credit for how rapidly and how far groundwater science has advanced in the past decade.

Also, this afternoon I would like to quickly address an erroneous Superfund myth. That is the Garden of Eden myth. The notion that the Superfund Program is requiring pristine cleanups at all Superfund sites. That is simply not true.

I can attest to the fact that the Superfund Program is not attempting to return sites to pristine natural conditions to prepare the way for daycare centers and playgrounds on old industrial sites across the country. On the contrary, the program on a regular basis opts for low-levels of cleanup, for writing off groundwater as unusable, for reliance on institutional controls to keep people from accessing sites, from growing crops and gardens, from fishing, from pumping water.

In some cases, those may be sound decisions. In other cases, those decisions reflect decisions to shave upfront cost in a fashion that ignores future cost and it ignores the inequities and who is asked to bear those costs.

But regardless of what one believes about the wisdom of those choices, the record shows that less than full cleanups are a matter of course, not an exception. Given those facts, we believe the debate should get beyond this mythology.

On the issue of cleanup, let me simply underscore the bottom line of the longer testimony. Groundwater cleanup is expensive, it is a long-term project, and at some sites there are real technological constraints on what can be accomplished. The groundwater cleanup is critical for groundwater is a dynamic resource on which this Nation grows more and more reliant every day. We have no choice but to use technology to its fullest to cleanup groundwater.

From 1950 to 1980, groundwater consumption in the United States tripled. Nearly 120 million Americans rely on groundwater for drinking and groundwater is the source of about a third of agriculture's irrigation water, and 17 percent of fresh water for industry, self-supplied industries.

As many areas of the country know too well, access to sufficient quantities of potable water is a critical factor for the vitality of existing communities, and an essential ingredient for future growth and development.

A decision to write off groundwater at Superfund sites is clearly a decision to tolerate inequities and to mortgage the future of these communities, imperiling not only environmental health, but also economic prosperity.

A decision to adopt a preference for the so-called "control of groundwater pollution plumes" over cleanup is also a decision to interject the Federal Government into the difficult and political sensitive arena of groundwater quantity.

Please be assured that opting against cleanup for plume management is not a matter of trading expensive for cheap, difficult for easy, long-term investment for quick fix. Many, if not all of the same scientific challenges in groundwater cleanup are also inherent in plume management. I would be happy to provide you some examples of that.

This committee may already be determined to weaken Superfund's requirements on groundwater cleanup. Our arguments may not convince you to do otherwise, but if that is where you are headed, we urge you and the public to face the fact that you are also headed into another difficult realm, even beyond pollutant fate and transport modelling, that of predicting and evaluating changing local water demands, not just for drinking but also for irrigation, for livestock watering, and for industrial purposes. If you opt for less than groundwater cleanup, you will opt for more in the use of water use prediction, evaluation and control.

Let me close with two final thoughts. An earlier speaker urged the committee to focus cleanup efforts on areas where great numbers of people will be affected. In some respects, that is what the program already does, for proximity to people is part of the hazard ranking system.

But if the hazard potential at a site is great enough to rank on the NPL, is it fair, is it equitable to then say that the population density becomes the denominator in determining how much contamination is to be endured. If I live in New York City, maybe I would say. If I live in Dungannon, Virginia, my answer may be no.

To those who care about rural communities, I offer a caution lest you foist upon this program a cost/benefit scheme that harshly and coldly discriminates against rural Americans, subjecting those who

live in small communities to greater individual health risk and mortgaging the future of those communities.

I appreciate this opportunity to testify and look forward to your questions.

[The prepared statement of Velma M. Smith follows:]

PREPARED STATEMENT OF VELMA M. SMITH ON BEHALF OF FRIENDS OF THE EARTH

Mr. Chairman, Members of the Committee, I am Velma Smith, Executive Director of Friends of the Earth. I appreciate the opportunity to testify.

Let me begin by saying that Friends of the Earth believes strongly that the issue of remedy selection is the single most important issue is this prolonged and sometimes contentious debate on Superfund.

If the wrong decisions are made on remedy selection—for example, a decision to substitute a pure cost-benefit test for cleanups—then grave harm will be done to an important program. And if this Congress opts for cleanup measures that save money up front but simply mask pollution threats and delay responsible and necessary actions, then Congress will clearly break faith not only with hundreds of citizens who today live near sites in need of cleanup, but also with countless more who will suffer the consequences in the future. If the wrong decisions are made on remedy selection, this Congress could close off future opportunities for full use of land and water resources in many locales and it could burden belt-tightened government bureaucracies with thousands of sites that will require vigilant oversight for many years and decades.

Unfortunately, deriving the precise prescription for protective, cost-effective and permanent remedies is no easy task—though some calls for reform seem to imply as much.

I hope that the comments I will offer this morning are helpful in your difficult deliberations.

In the brief time we have, I would like to touch on several areas related to remedy selection, including risk assessment, soil cleanup, land use controls and groundwater cleanups.

Superfund Sites Do Pose Health Risks

Before I address any of these issues, however, I would like to start with the area that others end up at: health threats from Superfund sites.

You have been hearing for years that the remedies selected under the Superfund program are too costly, too costly because the risks are not great. You have also heard that while the technologies for groundwater cleanup don't work, that failure is of minor consequence, because the risks of the pollution that can't be put right are really very small.

That, in our view, is wishful thinking. I too wish it were true, but none of us can or should be assured that it is.

The debate on Superfund has been framed as if scientists have witnessed in the last few years a major ground shift in what we know about toxic chemicals and human health. This is simply not true.

In the field of environmental health, there has been no parallel to Galileo turning the world of astronomy on its head with a revolutionary theory that the earth revolves around the sun. There has been no startling new discovery which tells us that environmental toxins are benign.

Controversy abounds, as it always has in this field and probably always will. But the past decade's concerns about chemical exposures have not been cast aside as foolish by the mainstream of scientists. On the contrary, it would appear that evidence is mounting that exposure to environmental toxins is injurious to public health.

Consider information presented in the last session of Congress by Dr. Barry L. Johnson, Assistant Administrator of the Agency for Toxic Substances and Disease Registry. Among the studies which Dr. Johnson referenced were the following:

A 1983 study in New Jersey found elevated levels of cancers of the esophagus, stomach, colon and rectum in counties surrounding hazardous waste sites. The variables most frequently associated with gastrointestinal cancer mortality rates, in this study, were population density, degree of urbanization, and presence of toxic waste disposal sites.

A 1989 study looked at nearly 600 hazardous waste sites in 49 states where there was evidence that contaminated groundwater was the sole source of water supply. Significant associations were found for cancers of the lung, bladder, esoph-

agus, stomach, large intestine, and rectum for white males; and for cancers of the lung, breast, bladder, stomach, large intestine, and rectum for white females.

A 1992 study of congenital malformations in New York indicated that "...maternal proximity to hazardous waste sites may carry an additional risk of approximately 12% of bearing children with congenital malformations."

Another 1992 study of reproductive outcomes in New Jersey associated dichloroethane with major cardiac defects; dichloroethylene with central nervous system defects; trichloroethylene with neural tube defects and oral cleft defect, and carbon tetrachloride with low birth weight, intrauterine growth retardation, central nervous system defects and oral cleft defects.

A study by the California Department of Health Services evaluated births in the two-year period between 1983 and 1985. "The study concluded that maternal residence at the time of the child's birth, in a census tract with a hazardous waste site, significantly increased the risk of giving birth to infants with malformations of the heart and circulatory system."

Dr. Johnson's testimony also speaks to health data on trichloroethylene (TCE), a chemical which makes the top ten list for occurrence at Superfund National Priority List sites. According to the National Research Council, "a chain of evidence" links TCE to cardiac anomalies, and extensive animal studies "demonstrate a range of other effects of TCE from reproductive impairment to effects on DNA...." A link in this chain comes from ATSDR's National Exposure Registry, which attempts to track reported adverse health effects in persons who have been exposed to hazardous substances. Registry information on nearly 5,000 individuals with documented exposure to trichloroethylene shows health problems in excess of those reported by the general population, including anemia, diabetes, hypertension, stroke and urinary tract disorders.

The National Research Council's 1991 volume, *Environmental Epidemiology*, cites a host of other health concerns associated with hazardous waste exposure and notes that "...there is evidence that neurologic, hepatic, and immunologic functions can be damaged by exposure to drinking water contaminated with toxic chemicals."

Uncertainty Demands Care

In bringing these unsettling findings to your attention, do I imply that these various study results constitute ironclad evidence of causation? Certainly not.

Ironclad evidence is a commodity in short supply in the field of environmental epidemiology. There remains much that we do not know about the fragility of health and the workings of disease. The tools for unraveling the mysteries of human health effects are not as powerful or precise as needed, but they are improving.

"The evolution of chemical production in the United States," in the words of Prout, et al, "has outstripped the evolution of knowledge of health effects."

Thus, no one can sit here today and quantify the risk associated with the nation's Superfund sites. In fact, uncertainty of dose-response curves aside, it may well be that none of us could accurately predict even the number of National Priority List sites that we might have a decade from now. As we engage in debate about risks and risk assessment, we would do well to keep in mind these limitations on our predictive abilities.

A disquieting level of uncertainty and an inability to quantify should not serve as rationale for inaction, however.

The uncertainty and the issues at stake underscore the validity of the fundamental notions behind the Superfund law:

> Act quickly, remove contaminants from the environment, and employ the best technologies available to assure that clean stays clean and that the arduous task of cleaning up can actually be declared complete at some point in time.

Unfortunately, in 1995 it appears—not that the Superfund goals of protection and permanence were off the mark—but that the magnitude of the messes that have been made has been grossly understated and the capabilities of the cleanup technologies vastly overrated.

The course is not wrong, but much harder and longer than what we predicted. And now reform of Superfund should take place with the benefit of a decade's worth of sobering experience.

My counterparts in industry draw different lessons from our Superfund experience, however. They do not appear to enter this debate with remorse for the messes and regret for the miscalculations and mismanagement which have yielded closed drinking water wells, fish consumption restrictions or truckloads of contaminant-laden soil. Instead, they bring a righteous indignation that Congress would impose a task so costly and so difficult.

The program, not the pollution, has been made the culprit. That approach to the debate, in our view, is unconstructive and irresponsible.

Risk Assessments Are Not "Overly Conservative"

Despite the unknowns, the PRP or Potentially Responsible Party community and, indeed, many in the Congress appear firmly convinced of the ability of quantitative risk assessments not just to yield perspective but to dictate straightforward cleanup answers. The stumbling blocks to rational decisions and expeditious cleanups, they argue, can be found, not in real-life uncertainty and complexity, but in the approaches that EPA has used for risk assessments at individual Superfund sites.

According to many critics, EPA—either through sheer incompetence or misguided environmental zeal—has adopted approaches which are "ultra-conservative" and invalid. As the arguments go, conservative and scientifically invalid become synonymous.

But the use of conservative or even so-called "ultra conservative" values is not invalid or unscientific on its face. A decision to use worst-case assumptions, average risk assumptions or some other value is correct or incorrect only in the context of the risk management policy that has been adopted. "[L]ower bounds, averages, upper bounds, and other ways to express uncertain information all have legitimate roles to play depending on the costs of making errors," explains Dr. Adam Finkel formerly of Resources for the Future. "[N]one is technically or morally superior to any other unless the context is specified."

In the case of Superfund, if the Agency is directed to protect all of us, then its arithmetic must use worst-case assumptions. If the Congress decides, instead, to offer protection from environmental hazards only to some, then average or lower bound statistics may become appropriate.

These sorts of policy decisions are difficult and value-laden; they touch on fundamental notions of the role of government and sensitive questions of ethics. They can't be sanitized and reduced solely to numerical puzzles. And you as policy-makers cannot be shielded from them by looking for scientifically objective answers in a vacuum.

Second, we take issue with the proposition that EPA risk assessments are, overall, highly conservative. There are many reasons why that is not the case. Let me discuss just a few of those.

Risk assessments are based on a subset of chemicals, not the full complex of chemicals present at Superfund sites. This simplification is necessary, in part, because of limitations in analytical capabilities. Some chemicals can be detected down to relatively low levels. Others are not analyzed or adequately characterized; these include unintended byproducts of manufacturing or other chemical mixing.[1]

According to William Alley of the U.S. Geological Survey, "...VOCs detected in ground water may often be the 'tip of the iceberg' when complex contaminant sources are nearby..."

But risk assessments cannot assess the risks of unknowns, so risk assessors work from lists of chemicals not real-world mixtures.

And even the lists of known chemicals that drive a risk assessment may be pared down to a manageable number of indicator chemicals. Chemicals for which no data exist are eliminated, and risk assessors select for further analysis those individual chemicals which would appear to be the most problematic. This simplification may be necessary from the standpoint of workability, but it must be recognized as a fundamental decision point which introduces a non-conservative element into the very foundation of risk assessment work.

Non-conservative simplifications are made at the other end of the risk assessment spectrum as well. EPA frequently treats all humans or, at best, all children and all adults as equally susceptible to harm. According to Edward Calabrese and others, such individual differences as age, sex, genetics, nutrition and preexisting conditions may affect an individual's susceptibility to harm from toxic substances.[2]

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[1] A 1987 study of hazardous waste site leachates, for example, found that only a few percent of the total organic carbon content of the mixtures of the 13 sites studied could be identified. The greater percentages of chemicals were simply unknown and uncharacterized. In addition, at the Stringfellow Acid Pits in California, regulators originally focused their efforts on a group of volatile organics (VOCs), including TCE. After working with the site for some time, however, California health officials recognized that the sum of the concentrations of detected contaminants was much less than the total organic halogen concentration. Significant analytical work was required to determine that the contaminated groundwater included high concentrations of apparent acid byproducts of DDT manufacture.

[2] The Society for the Advancement of Women's Health Research, for example, has argued that "...risk assessments have been seriously flawed by gender bias in many areas, including the

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Unfortunately, Calabrese is correct. "The extent or magnitude to which predisposing factors enhance susceptibility to toxic substances is known only to a limited extent." Risk assessors may be off the mark when it comes to protecting particular populations, but—at least for now—there is scant data to suggest the size of any error.

And what of the infamous EPA assumptions about children who eat dirt for breakfast, lunch and dinner? Well, in some particular risk assessments EPA may have chosen relatively conservative values for childhood soil ingestion, but on the whole, I would venture that EPA appears to be within the range of reasonable judgements on this point.

EPA has stated 200 mg/day as a default assumption for childhood soil ingestion—as have the soil cleanup programs in New Jersey and Washington State. That number would not appear to be out of line with a range of estimates reported in 1987 by Calabrese of 10 mg/day to 10,000 mg/day. More recent data may indicate that the 200 selection could be more conservative than previously thought, but it does not invalidate the selection.

Although soil ingestion values have generated a storm of controversy and debate, soil ingestion is but one in a myriad of variables that must be accounted for in some fashion in a risk assessment.[3]

PRPs have cried loud and long about a few of these variables for which EPA may be making conservative judgements in the absence of solid, site-specific data, but in the words of Adam Finkel, they choose to "...ignore a body of evidence strongly suggesting that as a whole, neither exposure assessments nor dose-response assessments have seriously exaggerated their final outputs."

Risk assessment, then, is the process that polluters love to hate. It is malleable; it is complex and arcane; it is virtually inaccessible to the general public. Risk assessment can be criticized at the very same time that it is manipulated. Thus, it should come as no surprise to hear EPA staff state matter-of-factly that "...negotiations with responsible parties often turn into lengthy arguments over risk assessment methods and assumptions."

National Soil Protection and Cleanup Standards Can Speed Cleanups

Friends of the Earth believes that Congressional reforms of Superfund should seek to put some limits on these resource-intensive yet uncertain exercises. You can do so in several ways, the most important of which may be to require EPA to issue soil cleanup standards.

We believe that the last reauthorization's notion that Superfund cleanups should conform to Applicable or Relevant and Appropriate Requirements or ARARs was reasonable. But ARARs have not worked, in part, because we have no national standards for soil cleanup.

Congress could cut short that piece of Superfund delay that derives from protracted risk assessment debates on soil exposure pathways by directing EPA to issue national soil cleanup standards. In our view, these standards should be based on reasonable worst case assumptions and intended to protect sensitive subpopulations.

We also urge you to consider infusing this beleaguered program with a bit of preventive medicine, and in the hopes of keeping future NPL lists shorter, we recommend that the reauthorization require EPA to either develop a distinct set of soil protection standards that will govern ongoing industrial operations or apply the appropriate soil cleanup standards prospectively to active facilities.

Surely, it strikes others as odd that while we tear our hair out in furious debate about what level of soil contamination should be cleaned up, our federal regulatory scheme is absolutely silent on the need to stop using soil as receptacle for waste.

Scientists Have Been Too Optimistic, Not Too Conservative, in Predicting Groundwater Problems

Soil protection standards are needed not only to protect individuals from the hazards of direct contact, ingestion, or inhalation of contaminated soils but also to protect groundwater resources from further degradation.

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evaluation of the dose received by an individual, the underlying toxicity of a chemical, and the potential for interactive effects with substances taken specifically by women...." In the few cases where gender-related differences have been studied in animals, notes the Society, "...it appears that females absorb higher doses of the chemical toxicant than males." If those studies are correct and applicable to humans, then EPA risk assessments may be non-conservative for women.

[3] See, for example, the appendices from EPA's Superfund Exposure Assessment Manual; note that the long list of parameters does not include factors relating to groundwater contamination.

If, in the last decade, there has been a paradigm shift, it has not been in the field of environmental epidemiology but in the science of groundwater. That paradigm shift has been presented to you as somewhat narrow: We thought groundwater could be cleaned up; it can't.

The reality here is far more complex.

The contamination of groundwater, according to a 1988 volume of technical papers, "was born of a perception that subsurface systems possess unlimited capacities to accept and degrade organic chemicals introduced either accidentally or intentionally by disposal operations. This perception is now recognized as having been unfounded...."

A noted West German hydrogeologist explains that when a variety of chlorinated hydrocarbons were discovered in groundwater just a little over a decade ago, their presence appeared "rather contradictory."[4]

So-called "conservative" predictions of contaminant movement in the earth's subsurface, it turns out, were not conservative enough.

And today we find that groundwater contamination—once thought to consist primarily of localized anomalies—is widespread. The resource that feeds flow to rivers, streams and wetlands, serves as drinking water supply to nearly 117 million Americans and provides approximately 33 percent of agriculture's irrigation water and 17 percent of freshwater for self-supplied industries, is not in good shape. Contamination plumes which extend from just under a mile to six miles from their source are now, according to John Cherry and Douglas Mackay, "common."

Among the chemicals most widely implicated in today's groundwater problems which as you know manifest themselves in over 70 percent of NPL sites—are Dense Non-Aqueous Phase Liquids or DNAPLs.

DNAPLs, such as chlorinated solvents, wood preservative wastes, PCB oils, coal tar wastes and a variety of pesticides, are denser than water and, generally, not highly soluble in water. They move in separate phase from the groundwater in the subsurface, and they have defied many predictive models and eluded site investigators, because they can dive deep into the subsurface in "erratic" patterns and remain in pools and fingers that will serve as continuing underground sources of pollution for many years.

"Even with a moderate DNAPL release," says EPA, "dissolution may continue for hundreds of years or longer under natural conditions before all the DNAPL is dissipated and concentrations of soluble organics in ground water return to background." Very small volumes of DNAPLs have the capacity for creating enormous groundwater problems. These problems are very difficult to fix with today's technologies.

Though a halo of dissolved contaminants will form around and move from the contamination source which fills pore spaces and sits in pools above less permeable strata, the mass of the contaminant will resist movement, even under pumping conditions. The factors that once appeared to translate into a low likelihood of contamination ever reaching the saturated subsurface become the enemies of cleanup once contamination has occurred.

Thus, predictions of required groundwater pump and treat durations have been wrong, sometimes decades wrong. These errors and the prospect of tens or even hundreds of years of pump and treat have been translated broadly into a rhetoric that says groundwater cleanup is impossible.

While complete aquifer restoration at DNAPL sites is theoretically possible, full restoration with today's technologies—at *some* DNAPL sites—will undoubtedly take enormously long time-frames, time-frames that were never contemplated by Superfund drafters. DNAPLs are clearly very difficult to remedy. They are also extremely difficult to locate and fully characterize, and these difficulties are frequently overlooked in discussions about long-term DNAPL contaimnent.

Advances in DNAPL Cleanup Should be Encouraged Not Stifled

Friends of the Earth believes that our response to the DNAPL problem must involve more than giving up the law's goals for groundwater cleanup. Opting for a contamination holding-pattern will only allow our groundwater problems to worsen while innovation in cleanup technology is halted.

Instead, we recommend a DNAPL strategy which protects potentially affected water users, including surface water users where groundwater discharges to rivers, streams or wetlands; assures that incentives for advancing DNAPL cleanup technologies are not diminished; provides for the maximum remediation possible, including effective containment and reduction of the mass of contaminants present in the

[4] "[T]he prevailing opinion," says Friedrich Schwille, "was that CHCs would not be capable, because of their volatilities, of penetrating deep into the subsurface."

subsurface as well as remediation of the dissolved fractions of DNAPL plumes; greatly improves site characterization efforts to assure that cleanup is optimized and that any containment strategy is fully effective for as long as residual DNAPLs remain as a continuing source of contamination in the subsurface; assures that the PRP and not the local community or the trustfund bears the full cost of ongoing containment and monitoring efforts; and prevents further DNAPL contamination of the nation's groundwaters.

To accomplish these goals, Congress should, first, retain Superfund's requirements for groundwater cleanup to drinking water standards but call for a special EPA initiative that will require a rigorous evaluation of sites for residual DNAPL problems.

EPA can, under current law, make feasibility waivers available for intractable DNAPL problems, but we believe it must do so *only* where there is extensive and compelling evidence that cleanup strategies will not be effective in a time-frame of less than 25 to 50 years. For any site at which such a waiver is invoked, EPA should collect an upfront payment from the PRPs involved that will offset the expenses attendant to long-term management of the site.

In order to assure, adequate assessments of DNAPL sites and to optimize on what can be achieved by today's technology, in terms of both containment and restoration, we recommend that EPA be directed to establish a sitting committee of technical experts drawn from the academic community. This committee should serve as quality assurance advisors for individual site management and for Agency-wide DNAPL activities, including the possible reevaluation of any EPA groundwater models which may yet incorporate improper assumptions about DNAPLs. Funding for such a committee should come from payments made by PRPs who are granted technology waivers.

These monies should also fund a special initiative to engage the affected communities in decision-making about and monitoring of these sites. We believe that for any site for which DNAPLs are implicated, Technical Assistance Grant funds should be made available—not once but on an ongoing basis—to community groups who wish to follow the progress of site containment and cleanup.

To assure that we do not continue to add to the problems of DNAPLs in groundwater, we ask you to consider amending the law's right-to-know reporting requirements to provide for improved disclosure of all DNAPL releases, adding all appropriate chemicals to the list.

We recommend that you also draft provisions that will require any PRP with an identified DNAPL site to provide the Agency with a list of all other facilities managing DNAPL products or wastes under its ownership or control. Environmental audits and DNAPL-specific pollution prevention plans for each such facility should become mandatory.

In addition, we urge you to mandate that the Agency propose and then promulgate by date certain rules that will provide for phase-outs of DNAPL products on as expeditious a schedule as possible. Such a mandate should include a hammer provision that bans—at a minimum—the most frequently detected DNAPLS, if the Agency fails to act.

Finally on DNAPLs, we recommend that you impose a fee on production of the most frequently detected DNAPLs, and that monies collected in that manner fund research and development on DNAPL cleanup technologies as well as improved institutional capacity within the Agency to investigate and respond to DNAPL releases.

Institutional Controls Will Incur Costs and Difficulties

As the story of DNAPLs in groundwater clearly illustrates, the challenges to the Superfund program are enormous. In the face of these challenges, there is one more "quick fix" placed before you.

Some argue that the Superfund program's ills could be cured, in large measure, by substituting institutional controls on land use and groundwater in place of onerous cleanup requirements. The notion of opting for land use controls and water use restrictions in lieu of cleanup technologies is posed to you as a "sensible proposition" to save "society's" scarce dollars.

Again, however, we caution a detailed look at this proposal before it is embraced. For in some cases, total remediation costs may be cut by relying solely on monitoring. But elsewhere, procrastination will eventually prove itself costly, and groundwater monitoring will only confirm that expensive remediation action will have to be undertaken.

For any consideration of the role of institutional controls in the program, we ask this Committee to look at who saves money and who pays under such a scheme—to look at who really assumes the burden of risk associated with long-term manage-

ment of the site. We urge you to look at who it is that will be available and solvent years or decades from ROD signing dates and who, in reality, will conduct monitoring and remain financially responsible for taking action, if monitoring indicates that something more than testing must occur or if institutional controls fail.

We urge you to be very cautious about any statutory changes that would promote reliance on land use and groundwater controls in the place of cleanup. Such changes could work as incentive for further delay, shifting responsibility for cleanup from those who participated in its making to innocent parties and stifling the much needed research investment that the demand for cleanup options has spawned.

At the same time, however, we recognize the inevitability of such restrictions in certain cases—even cases with cleanup proceeding. Institutional controls—restricting access to sites, restricting land use and restricting water withdrawals—have become essential elements of the Superfund program. The degree of harm already done to our environment has made such controls absolutely essential, at some sites, to assure the protection of public health.[5]

Given this reality, we ask you to consider changes to the law that will assure improved accountability and smooth functioning of institutional controls over long periods of time, changes that will bring better protection and a stronger voice to the neighbors of these sites. The challenges this task presents differ somewhat for groundwater and land use controls, so I would like to address them separately.

Writing Off Groundwater Will Require Federal Government Involvement In Issues of Water Quantity

Groundwater is not stationary. Though it is clear that—for the most part—groundwater moves slowly; it does move. Groundwater can move in inches per year or miles per day in karst limestone areas. Contamination plumes, likewise, may move at varying rates; contamination can and has spanned long distances.

At one level, it is clearly possible—given sufficient resources to fund sufficient study—to make reasonable predictions regarding how groundwater will move under certain conditions. But as the earlier DNAPL discussion implies, it can be even more difficult to predict—with any degree of certainty—how contaminants will move.

In the words of Clinton Hall, Director of the Environmental Research Laboratory in Ada, Oklahoma,

> *The world still views ground water... as though the subsurface environment were a big, uniform, homogenous sand box. This is true to a disturbing degree even among practitioners in the ground-water industry.... Most of the predictive models for contaminant transport in ground water that we have today start out with the assumption of a uniform, homogenous, isotropic porous medium. The subsurface is rarely, if ever, uniform, homogenous, and isotropic, and only a fraction of ground-water systems are in porous media.*
>
> *Most often, procedures for characterizing a contaminated site rely almost exclusively on chemical analyses of ground-water samples, with only limited understanding of the aquifer matrix in which the ground water exists. The subsurface environment is a complex system, subject to extensive physical, chemical, and biological variations within small vertical or horizontal distances.*

Simply put—it is easy to be wrong.

And added to these complexities of a non-homogenous subsurface are the difficulties of changing conditions over time, in particular changing pumping conditions.

Over the years, demands on water in general and groundwater in particular have grown. From 1950 through 1980, U.S. groundwater consumption tripled, and water experts in 1980 were predicting another doubling of its use in the period from 1980 until the year 2000. The task of predicting just where and when those future demands will occur should not be underestimated.[6]

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[5] Today, reliance on institutional controls is common. In its 1991 survey conducted for ATSDR, the National Governor's Association, for example, found 2,302 sites with some form of restrictions on access, land use, groundwater use or surface water use. Of the 2,302 sites, 651 are on the NPL. The 1991 survey showed an increase in reported sites with land use restrictions in comparison with the results of a 1987 survey. A cursory review of Superfund Record of Decision Summaries for 1982 through 1990 likewise shows some form of institutional controls on land use, restrictions on groundwater use and/or long-term monitoring of groundwater is noted in many RODs.

[6] While the groundwater resource is vast, only a small portion is reasonably available today for drinking water purposes. In some areas, the depth of groundwater and the costs of drilling and operating pumps are limiting factors in water availability; in other areas, natural contaminants, such as iron, sulfate, fluoride, radon or arsenic, present aesthetic or health problems that render large portions of the water undesirable for drinking; and—as clearly shown by the

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Tracking this moving target will not be easy. For those of you who are inclined to abandon groundwater cleanups in favor of groundwater controls, we ask you to critically consider the workability of a program that places the federal government in the position of controlling, over long periods of time, the use of a resource which moves in complex patterns and is difficult and expensive to characterize and to monitor, a resource which responds to changing points of recharge and discharge, including pumping wells.

Consider the situation in the San Gabriel Valley of California, where contamination is widespread throughout the water basin, contamination plumes cover 40 square miles and pollution has been documented at depths of 500 to 700 feet, EPA and others involved in the search for a solution have learned that the control of water pumping can be complex but critical. In this case—probably one of the Superfund program's most intractable problems—there are about 275 public water supply wells operated by about 45 different water purveyors and about 20 industrial or commercial operations with self-supplied groundwater usage. The basin serves as a drinking water source to more than a million people.

Years of struggle on this site have revealed that various decisions to close wells, to blend or treat contaminated water, or to relocate wells have affected groundwater flow patterns, drawing contamination into uncontaminated areas. In the words of a Department of Health official from the State of California, "...water suppliers could be a factor in the spread of the contamination."

In other words, the potential, indeed the likelihood, of changing pumping patterns over time adds complexity and difficulty to the effective management of sites at which contamination will not be remediated in the near term. Effective management of pollution will require reasonable predictions—not only about groundwater and contaminant flow—but also about changing water demands in a community. It will be necessary in many instances not only to predict demand for drinking water but also to predict use for irrigation, livestock watering or industrial purposes.

Such efforts will require control as well as forecasting. That path will not be easy or free of controversy.

Long before today you've heard concerns about the federal government entering the arena of water quality controls. You've heard these concerns from some of those who today would appear to advocate water quantity restrictions in lieu of groundwater cleanup.[7]

Friends of the Earth has never subscribed to the notion that the federal government should cede its interest in maintaining the quality of groundwater simply because the states have been and will likely remain the principal arbiters of water quantity conflicts. Rather, we have and will continue to press a more aggressive role for the federal government in controlling groundwater discharges from a wide variety of activities.

We find it a sad commentary, however, that Congress might entertain treading on this controversial arena not in an effort to do better in pollution prevention but simply to save responsible parties the expense associated with harmful environmental practices.

From all that we have been able to determine, it appears that some authority to close wells and prevent the use of contaminated water for public drinking water supplies or, in some cases, for private water supplies, resides with public health agencies at local or state levels in many jurisdictions. The authorities for controlling pumping rather than drinking water use appear to be far less uniform; under the complex patchwork of state water laws, EPA may be powerless in many instances to exercise control or to order others to do so. In the San Gabriel Valley, for example, EPA concluded after years of investigation and reaction to spreading contamina-

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Superfund experience, the RCRA corrective action program, the EPA Pesticides in Drinking Water Survey and numerous state and local studies on contamination—more and more groundwater has been contaminated by human activities.

[7] For example, representatives of the American Mining Congress testifying in 1988 before the Senate Environment and Public Works Committee argued against a federal role in groundwater quality that might peripherally involve water quantity issues. Bruce Leavitt, a hydrogeologist with Consolidation Coal Co., spoke on behalf of the AMC arguing that reduction of pumping could be considered "a compensable taking" in a state which was governed by the "absolute dominion" form of water law. A memorandum offered as an attachment to that Senate testimony also asserted that the "right to ground water is generally recognized to be a property right. Such water rights are entitled to the same constitutional protections as any other property right," argued the memo.

Also in 1988, the Western States Water Council, argued against a significant federal role in groundwater protection. According to the Council, "[o]nce a [groundwater] permit is issued, the permittee has a legal right, considered a constitutionally protected property interest, to withdraw a certain amount of ground water for beneficial use."

tion, that the creation of a new agency to provide coordinated control of water withdrawals was critical to cleanup progress on this huge Superfund site.

We urge you, therefore, not to write off groundwater resources and not to accept long-term institutional controls on groundwater use simply for the sake of saving identified PRPs a pricey bill for environmental errors.

In cases where it is clear that technology will not allow full cleanup for the foreseeable future, we cannot simply throw up our hands in frustration and hope for scientific advancements in another time-frame. In those instances, site characterization and continued monitoring must not be undertaken with a least-cost approach. PRPs must be required to use the full "state of the science" to assure plume containment, to protect water users from harm and to safeguard surface water sources as well.

Water users who suffer damage should be adequately compensated, not made to share in the price of pollution, and those who use water supplies for livestock watering or other critical non-drinking water uses should not be overlooked or short-changed. Local communities should be not only informed but also provided with tools and resources for becoming meaningful participants in ongoing site management decisions.

We also urge the Committee to assure that the Agency has the mandate and the tools for fully assessing operation and maintenance costs in all instances which rely on long-term groundwater monitoring and/or groundwater use restrictions. In addition, the Agency must have the ability to require an upfront commitment of funds from the PRPs not only for ongoing monitoring but also for contingencies that may arise if site characterization or containment approaches prove flawed.

Industrial Land Use Is Not Fixed in Time

On its face, the prospect of controlling land use would appear to be less complex and less difficult than a program which puts the federal bureaucrat in the position of controlling the future use of an unseen resource. The land surface, afterall, is in view. And it is static.

Or so it would seem. But land use controls can have their own complexities, and I would venture that the only real certainty in land use planning may be the certainty of change.

Zoning ordinances change, as do the zoning designations of parcels on community zoning maps. Even master plans, which purport to take a long-range view, change with surprising frequency in some communities. In the long run, land use is not static. Change is inevitable—even for land that many would consider locked into industrial use.

New York's SoHo district, for example, has changed its face substantially over the years. At one time the South Houston Industrial Area, as it was known, employed thousands of people in businesses associated with printing, chemicals, leather and paper products. For a time the then-industrial area was dubbed Hell's Hundred Acres.

The Torpedo Factory on Alexandria's waterfront today houses artists rather than munitions. Monterey's and John Steinbeck's Cannery Row is not a bustling fishing community but a tourist mecca. One of Chicago's first "new towns in town," Dearborn Park, displaced a variety of printing and photo businesses.[8]

Even areas that once seemed ill-suited for other uses can undergo significant change.

Critics of Superfund frequently point to railyards and railroad rights-of-way as areas where cleanup dollars may be wasted. But critics might also consider that as the country loses close to 3,000 miles of rail corridor each year, public demand for recreational facilities and cycling or pedestrian pathways turns a portion of those abandoned lines into well-travelled trails. Today there are 536 rail-trails spanning more than 6,000 miles in operation, and trail projects underway exceed 500.

Land Use Controls Must Look at Communities and Neighbors, Not Just Industrial Parcels

In our view, the nation's towns, cities, counties, parishes and townships have difficulty enough charting a course of change and preservation that fits the fabric of their respective communities, the needs of long-time residents, the demands of newcomers, the interests of non-residents and the aspirations of local youngsters.

[8] The changes in North Chicago that occurred in the period from the late 70s to the mid 80s were accompanied by relatively stable employment statistics. The changing composition of the workforce as that City was altered in less than a decade, however, tells a story about the land use changes that occurred. Over 7,000 jobs in the manufacturing sector were lost in those years.

They are not helped by the existence of a Superfund site or for that matter any other contaminated site. Nor are they helped by the case in which engineers, hydrogeologists, lawyers and outside business interests decide by fiat the future options or lack of options for a piece of property in that community.

By law, communities cannot single out individual parcels of land for special or different treatment in comparison with properties similarly situated. And by basic tenet of planning, any community would be ill-advised to plan the future of its community, parcel by parcel, rather than in total. Context is critical.

Unfortunately, the future of local Superfund sites may be dictated to communities on a per parcel basis rather than made in partnership with them. Cases such as this would appear to be occurring today, as Superfund decision-makers choose soil remediation levels, capping technologies or other options that imply the need for long-term site restrictions.

Friends of the Earth believes, first, that a preference for institutional controls rather than a full consideration of remedial alternatives should be rejected. Our goal should be to restore all sites to a full-range of uses; Superfund should be about restoring options not cutting them off.

Where technology uniquely constrains available options, however, it may be that some form of land use restrictions will have to be contemplated. For these cases, Congress should mandate a process which assures, first, that the needs of neighbors are addressed, that contemplated restricted land uses are acceptable to the local community and consistent with its planning and zoning, and that continued industrial activities do not take place on sites which are uniquely vulnerable to continued contamination.

In no instance, would we see justification for a decision foreclosing future land use options without the participation and the consent of site neighbors and the local community. And in no instance, could we endorse a less-than full cleanup alternative on a site directly adjoining or in close proximity to homes, schools, hospitals, playgrounds or other sensitive land uses.

Further, if Congress opts to sanction—in any fashion whatever—the use of land use controls, we believe it will need to clarify in the statute the appropriate forms of deed restrictions and an unambiguous intention to assure that restrictions will be viewed by the courts as transferring with property. This is necessary because the validity of restrictions over time does not appear to be clear today. Congress must also consider and provide for long-term oversight of these restrictions; someone must be entrusted with enforcing these controls.

In sum, Mr. Chairman, I would concede that some of the proposals offered to Congress today appear, at first blush, like bargains worth grabbing. But some bargains, as we all know, are not good buys.

We believe that Congress had the right idea when it opted for permanent cleanups to the greatest extent possible. Experience has taught us how difficult attainment of that goal can be, but surely it doesn't tell us that we should steer a future Superfund course that abandons that goal altogether.

I thank you for the opportunity to testify. I look forward to answering your questions and working with your staff during your deliberations.

Mr. OXLEY. Our final witness is Dr. Edwin Clark from Clean Sites, and not a stranger to the subcommittee.

STATEMENT OF EDWIN H. CLARK, II

Mr. CLARK. Thank you, Mr. Chairman. Good afternoon. I appreciate the opportunity to be here to testify for Clean Sites. Clean Sites is a not-for-profit organization established 10 years ago to encourage, contribute to and bring about the cleanup of hazardous waste sites in the United States.

Last year, our board of directors finished a 3-year effort to come up with a series of recommendations to improve the law. The last time I testified we didn't have it published. I would like to enter a copy into the record, if I may?

Mr. OXLEY. Without objection.

[The publication entitled "A Remedy for Superfund" is retained in the subcommittee files.]

Mr. CLARK. Thank you.

We came up with an eight-point program of change for Superfund. We believe that the adoption of this program will substantially improve the cleanup process. It will result in sites being cleaned up at a much faster rate. It will save millions of dollars at individual sites, and billions of dollars for the Nation. It will substantially reduce the conflict and distrust that often surround individual sites, and addresses problems of communities alienation and environmental justice.

In developing our recommendations, we have concluded the greatest improvements in the program would result from three areas of changes. The most important is the process of selecting and implementing remedies, the subject of today's hearings. The other two changes are to authorize States to take over much of the responsibility for the cleanup program and, second, to improve the settlement and cost allocation processes. These three areas of changes are those that, in our mind, will produce the biggest bang for the buck.

Again, the remedy selection changes are probably the most important in terms of saving money, speeding the cleanup process, and reducing uncertainty. We believe that adopting our remedy selection recommendations will make the cleanup process less controversial, faster, more technically sound, and could save millions of dollars, as I say, on individual sites, and billions of dollars for the entire cleanup program.

The four recommendations that specifically relate to the remedy selection are, first, to make the future use of the land and other resources at the site a fundamental consideration in determining how the site should be cleaned up. The future use of this site and associated resources should be a key consideration in deciding how and to what extent the site should be cleaned up. Local government with input from the affected community should have a primary role in making this decision. Once cleaned up, these properties should be available for beneficial reuse, and new purchasers should be free from liability for prior contamination.

The second recommendation was to establish a national standard of maximum allowable residual risk using the risk range specified in the current National Contingency Plan. The level of cleanup required to meet this standard at a site will depend on its future land use. The decisions about the future use of the site should determine the cleanup necessary, again, to repeat that.

Every site should meet a congressionally mandated national risk protection requirement in terms of the risk it may present to its users and neighbors. Cleanup decisions should be based on site-specific risk assessment and any State and Federal chemically-specific applicable requirements, but we do favor getting rid of the ARAR's.

The third recommendation was to streamline the process of identifying and designing remedial measures. When PRP's demonstrate a willingness to cooperate, EPA should adopt a more collaborative process for decisionmaking and for reviewing remedial designs. We have undertaken a project that demonstrates how much savings that type of cooperation and collaboration can bring about.

And, fourth, extend opportunities for public participation in decisions regarding cleanup efforts and structure a more cooperative

process for stakeholder involvement. I agree with some of the previous people testifying that constructive public participation can speed up a process and make it more reasonable.

Another important opportunity which hasn't been discussed today to improve the cleanup process is stimulate the development, demonstration and commercialization of innovative remediation technologies. Thus, one of our recommendations was that the government create a national strategy to promote the development of improved technologies that will cleanup sites more effectively and at less cost.

The other recommendations that we came up with were not specifically related to remedy selection, but let me just give them. They were to authorize qualified States to take on responsibility and authority for ensuring cleanups at most sites. That States establish programs to encourage responsible parties to cleanup sites voluntarily, and that EPA provide PFE's with stronger incentives and better tools to reach settlement quickly.

Although these eight points address distinct issues, they are all closely related and should be implemented together as a package. They define an integrated program for change. A program which, by requiring both statutory and administrative modifications will substantially alter the entire cleanup process and help it achieve its goals more quickly, more effectively and at less cost.

Thank you very much.

[The prepared statement of Edwin H. Clark, II, follows:]

PREPARED STATEMENT OF DR. EDWIN H. CLARK, II, PRESIDENT, CLEAN SITES, INC.

INTRODUCTION

Mr. Chairman and Members of the Subcommittee, my name is Edwin Clark. I am the President of Clean Sites, a not-for-profit organization established ten years ago to "encourage, contribute to, and bring about the clean-up of hazardous waste sites in the United States." I appreciate the opportunity to testify before you today to present our views on what improvements are needed in the Superfund legislation.

Clean Sites was formed in 1984 by a coalition of industry and environmental leaders and former senior government officials for the purpose of finding ways to make the nation's Superfund program work better—exactly the issue that this subcommittee is addressing in its hearings today. With a Board of Directors comprised of representatives of business, academic, public service (at the federal, state, and local level), and environmental interests, Clean Sites' efforts to improve and accelerate the cleanup process include conducting policy analyses, providing technical project management services at sites, and mediating and allocating cleanup costs among potentially responsible parties (PRPs).

In 1991, our Board of Directors decided to take on a major initiative—analyzing and evaluating changes to the nation's Superfund legislation that would make the program work better. This effort built upon the extensive experience of the members of our Board as well as the organization's decade of experience working on the Superfund program, facilitating decisions, mediating disputes, designing remedies, and supervising cleanups.

During this period we have worked extensively with potentially responsible parties (PRPs), community groups, and federal, state, tribal, and local governments. To ensure that our recommendations represent as broad a spectrum of opinions as possible, we held a series of public forums and consulted with hundreds of stakeholders representing virtually all points of view. Finally, we commissioned several special analyses by outside experts and have spent over a year analyzing options before making our final recommendations.

We published our recommendations in February, 1994 in a report entitled *A Remedy for Superfund: Designing a Better Way of Cleaning Up America.* I would like to submit a copy of that report for the committee's information and the record.

The major focus of our recommendations is on remedy selection—the subject of today's hearings. Indeed this has been the focus of much of our public policy work

over the past several years. We issued our first report, *Improving Remedy Selection,* on this subject in 1991. That report set forth three principles for remedy selection to make the cleanup process more efficient and respond to the needs of the communities in which contaminated sites are located. These principles were: 1) cleanup plans should provide consistent levels of protection from risk; 2) the communities directly affected deserve a greater voice in the decision-making process; and 3) the design of the remedy should be based on the future use of the site, and should be a better understanding of what the proposed solution actually achieves and what the site can be used for after the remediation is completed.

We believe that adopting our remedy selection recommendations would make the cleanup process less controversial, faster, more technically sound, and could save millions of dollars on individual sites and billions of dollars in the entire cleanup program. We believe that these changes represent the biggest potential improvements in the Superfund program—in terms of saving money, speeding the cleanup process, and reducing uncertainty. As Congress considers the numerous proposals for changing the Superfund legislation, I hope you will keep in mind the importance of improving the remedy selection process, and the costs that the nation is experiencing because of the delay in adopting these improvements. I believe that improving the remedy selection process, establishing an efficient authorization program, and improving the settlement and cost allocation process are the two changes that will produce the most significant improvements—these are the changes that will produce the "biggest bang for the buck".

BACKGROUND

The United States is still faced with the substantial challenge of cleaning up a hazardous waste legacy created by decades of inadequate attention to the problems that hazardous wastes can cause. Few realized the magnitude of this challenge when Congress enacted the original Superfund statute in 1980. The public was substantially concerned about Love Canal and a few other sites, but the problem seemed manageable. Most people apparently expected the initial authorization of $1.6 billion combined with expenditures by private companies soon to have the sites cleaned up.

Now a decade and a half later, the Environmental Protection Agency (EPA) has identified almost 39,000 potentially contaminated sites, over 1,200 of which are on the National Priorities List (NPL). Some estimates of what it will cost to clean up all contaminated sites approach a trillion dollars.

The cleanup program has been extremely controversial since it began, and the intensity of that controversy has grown over the years. Few public programs have stimulated debates as intensive, extensive, and emotional. As one Congressional aide observed last year, usually when Congress causes billions of dollars to be spent, someone is happy. This is not the case, however, with Superfund program. Almost everyone—private industry, environmental groups, community organizations, local, state and federal governments, Congress, and even the President—seems to agree. The cleanup program is not working the way that it should: it needs to change.

Unfortunately, the harmony of that agreement quickly breaks down into a dissidence of diverse issues, concerns, and complaints. Everyone agrees that there are problems, some agree on what those problems are, but few agree on how they might be solved. Thus, Congress and the Administration are faced with turning this discord into some kind of reasonable and harmonious solution.

Our experience indicates that most of the interests participating in these discussions do agree on the basic goals of the pregrain. Different stakeholders might use different words, but most generally agree that the following are three goals of remedial actions taken under the program:

1. The cleanups should effectively eliminate any unreasonable risks to public health or the environment from the contaminated site.
2. The cleanups should be cost-effective.
3. The cleanups should proceed as rapidly as possible.

These are the goals that we have focused on in developing our recommendations. We have concluded, as I indicated above, that the greatest improvements in the program would result from three improvements. One is making the process of selecting and implementing remedies more efficient and effective. The second is one delegating much of the responsibility of the program, particularly for sites that are not listed on the National priorities list to states with acceptable programs. The third, which should reduce delays, frustrations, and unnecessary transactions costs, is to improve the process of reaching settlements and allocating costs. These are the three areas in which we believe the nation will realize the greatest return from changes to the law—the biggest bang for the buck.

THE CLEAN SITES RECOMMENDATIONS

There are eight specific proposals that Clean Sites recommends be adopted. We believe that the adoption of this program will substantially improve the cleanup process. It will result in sites being cleaned up at a much faster rate. It will save millions of dollars at individual sites, and billions of dollars for the nation. It will substantially reduce the conflict and distrust that often surround individual sites. It addresses problems of community alienation and environmental justice.

Those recommendations that specifically relate to remedy selection are the following:

- *Make the future use of land and other resources at the site a fundamental consideration in determining how the site should be cleaned up.*—The future use of the site and associated resources should be a key consideration in deciding how and to what extent the site should be cleaned up. Local government, with input from the affected community, should have the primary role in making this decision. Once cleaned up, these properties should be available for beneficial reuse, and new purchasers should be freed from liability for prior contamination. An example of considering a site's future use comes from my own experience in Delaware. As the location for a proposed baseball stadium, the State and City of Wilmington sought to use a contaminated site on the State Superfund list. By conducting the design and construction of the stadium concurrently with the site remediation effort, we significantly reduced remedial expenses and saved substantial time, while ensuring the protection of the health of the workers and the public as the land was developed and used. This example points out that the concept of considering future use early in the process is critical to addressing virtually any site efficiently. Considering a site's future use is also important for redeveloping "brownfields," those abandoned or "mothballed," contaminated, former industrial sites that may not be on either the NPL or a state's Superfund list. These "brownfields" often cast a pall on the value of nearby properties and entire neighborhoods, spear-heading a cycle of urban decay. With effective reuse, these sites can instead be a magnet for urban revitalization.
- *Establish a national standard of maximum allowable residual risk, using the risk range specified in the current National Contingency Plan (NCP). The level of cleanup required to meet this standard at a site will depend on its future land use.*—The decisions about the future use of the site should determine the extent of cleanup necessary. Every site should meet a Congressionally-mandated national risk protection requirement in terms of the risk it may present to its users and neighbors. Cleanup decisions should be based on site-specific risk assessment and any state or federal chemical-specific applicable requirements.

  To date, the majority of cleanup decisions have been based on worst-case exposure assumptions (e.g. children living on a historically industrial site and drinking contaminated groundwater). These assumptions often bear little or no relationship to existing or expected exposure pathways at a given site. Site-specific risk assessments allow for more appropriate estimates of risk based on existing and future exposure pathways. Using site-specific risk assessments and moving away from the practice of using worst-case assumptions fosters efficiency in program implementation by narrowing the range of future exposure scenarios to evaluate and allowing selection of cleanup levels that are appropriate for the intended use of a site.
- *Streamline the process of identifying and designing remedial measures.*—When PRPs demonstrate a willingness to cooperate, EPA should adopt a more collaborative process for decisionmaking and for reviewing remedial designs. Interim controls should be allowed where no permanent cleanup is currently technically feasible.

  Clean Sites has recently completed a pilot project under a cooperative agreement with EPA demonstrating the advantages that can result from applying an accelerated approach to the remedial design phase of cleanup. By employing a "design team" approach, EPA, State regulators, and the PRP collaborated to complete the design of a groundwater treatment system seven months sooner than originally planned. Additionally, the remedial action was integrated with the remedial design to allow construction to be completed in nine months as opposed to 23 months under the original schedule. Use of the design team approach allows a high level of cooperation and understanding to develop among EPA, State and PRP representatives, and consequently streamlines the cleanup process.
- *Expand the opportunities for public participation in decisions regarding cleanup efforts, and structure a more cooperative process for stakeholder involvement.*—At most sites, a site advisory committee (SAC) should be established which

would include representatives from the community as well as all the other major stakeholders. Citizens should be given the opportunity to truly participate in the decisionmaking process rather than just respond to proposed decisions. When meaningful citizen involvement occurs sufficiently early in the cleanup process, the result can be a faster, more effective cleanup because citizen concerns have been able to be addressed during the process. The consequence of a failure to involve affected citizens early and to recognize their contribution can be costly both in terms of remedy design changes and in overall delay in arriving at a final solution to the problems at an individual site.

Another important opportunity to improve the cleanup process is to stimulate the development, demonstration, and commercialization of new technologies. The technologies we currently use are often, too expensive, ineffective, and create high short term risks. We cannot afford to cleanup all of our contaminated sites using only those technologies we have now. Therefore, one element of the Clean Sites eight-point program is:

- *Create a national strategy to promote the development of improved technologies that will clean up sites more effectively and at less cost.*—The federal government should develop a national strategy to coordinate research efforts and funding to develop and demonstrate new environmental cleanup technologies. Federal facilities should be used for full scale tests and demonstrations of new technologies.

  As part of our Innovative Technology Program, Clean Sites is working under a cooperative agreement with EPA's Technology Innovation Office to create and coordinate Innovative Technology Public-Private Partnerships. We are currently facilitating public-private partnerships at seven Federal facilities (DOE and DOD) to conduct full-scale demonstrations of innovative technologies. By bringing together private industry, State and Federal government agencies to conduct such full-scale demonstrations, we promote coordination of resources and information-sharing, and consequently expedite acceptance and implementation of cheaper and more efficient cleanup technologies.

After improving the remedy selection process, we believe that the most important improvements to the program—in terms of reduced costs, speedier cleanup, and reduced uncertainty—will result from assigning much of the responsibility and authority for implementing the program to qualified state agencies.

Implementing this recommendation is more important for sites that are not listed on the National Priorities List than for sites that are. We believe that the greatest problem lies not with the 1300 or so NPL sites but with those contaminated sites that do not make it to this list. Certainly there are problems with the NPL sites, and these need to be fixed. But the greater cost and, I would submit, the greater aggregate risk lies in those sites that are contaminated but that have not yet been listed on the NPL.

Many of these sites probably will never be listed, but the federal legislation still applies to them. Thus they are left in a situation where they suffer from all of the problems that the federal program imposes, but will not receive the benefits of being cleaned up that the federal program was designed to bring. They are left in a legal limbo that inhibits their being cleaned up and returned to beneficial use. The result is that they are often left derelict, an economic and health blight in our communities. We do not believe that last year's proposed legislation adequately addressed this problem and hope that you will correct that failure in this year's bill.

Thus I wish to reemphasize our recommendations on program delegation. These are:

- *Authorize qualified states to take on the responsibility and authority for ensuring cleanup at most sites.*—States requesting such responsibility and meeting federal statutory criteria for assuming it should be authorized to assume cleanup responsibility for all non-NPL sites and selected NPL sites. EPA should be given stronger decisionmaking authority for sites that remain a federal responsibility.

  We recommend that the authorization process be based upon several basic performance and capability criteria, but that it not be the detailed, nit-picking process that has unfortunately characterized some of the recent delegation or authorization processes such as those involved in delegating RCRA responsibilities.

  We do believe, however, that EPA should retain some oversight responsibility and if, as determined by the agency or demonstrated by the community or PRPs, the state is *substantially* failing to meet the goals of the program at a site, that EPA be authorized to retract authorization of such sites from the state. We believe that such an approach would prevent the agency from second

guessing every decision that the states make, but would provide credible assurance that the cleanup job will be done correctly and that everyone's interests will be protected in the process.

- *Establish state programs to encourage responsible parties to clean up sites voluntarily.*—States accepting authorization should be encouraged to establish voluntary cleanup programs which reassure PRPs that they will not face "double jeopardy." However, these voluntary programs should not divert resources from the highest priority sites. We do not believe that, with an effective authorization program, it is necessary or efficient for the federal government to attempt to establish a voluntary cleanup program, and note that over twenty states have already passed legislation or are developing programs to encourage and facilitate voluntary cleanup.

Finally, we believe that the settlement and cost allocation process needs to be and can be made much more efficient, less costly, less frustrating and more expeditious than it is now. Although less important from either a monetary or human health risk standpoint than the other recommendations, the current process is a major source of frustration, delay, and complaint. Therefore, we recommend that provisions be included in the legislation to:

- *Provide PRPs with stronger incentives and better tools to reach settlement quickly.*—Additional incentives, such as the ability for settling parties to collect penalties from non-settlors, and an efficient cost allocation system, potentially including a binding decisionmaking process, should be created to encourage PRPs to come to settlement quickly and to expedite the return of the site to beneficial use.

  Probably the most important factors in making the allocation process work better are: 1) the agency collecting and providing the allocator with as much information as possible early in the settlement process; 2) early and decisive settlements with de minimis parties to remove them from the process; 3) the use of mixed funding in many more cases to reduce the perception of unfairness; and 4) decisive schedules and decisions that will force a durable decision to be made and maintained.

  We believe that most of these elements were included in the proposal considered by Congress last year, and understand that EPA is intending to demonstrate the advantages of their proposed process but testing it at some sites this year.

Although these eight points address distinct issues, they are all closely related, and should be implemented together. As a package they define an integrated program for change a program which, by requiring both statutory and administrative modifications, will substantially alter the entire cleanup process and help it achieve its goals more quickly, more effectively, and at less cost.

Several basic principles permeate our eight-point program.

The first is that the goal of the program should be to get all contaminated sites cleaned up as efficiently and expeditiously as possible. Again, we are concerned not only with the limited number of sites listed on the NPL, but with the tens of thousands of contaminated sites that do not have that designation but may still be creating human health and environmental risks. This is why we strongly endorse program authorization to the states. Not only will authorization allow progress to be made on many more sites, but state programs have often demonstrated an ability to get sites cleaned up at about half the cost and a third of the time of the federal program.

The second principle is that the program must recognize that hazardous waste sites are often an integral part of a community, an economy, and a natural environment. Consideration of the future use of the site, taking into account all of these links, should guide the entire decisionmaking process. The goal of the program, in addition to protecting health and the environment, should be to return the site quickly to beneficial use rather than allowing it to remain a wasteland that can inflict perpetual costs on the surrounding community. This is a principle that Clean Sites has espoused for years, and its truth is becoming increasingly apparent.

The third principle is that, because of the importance of these sites to the surrounding community, the public needs to be involved in the decisionmaking process much more effectively than it has in the past. This is particularly true for minority and low income communities which are too often excluded from decisions that can profoundly affect their health and quality of life. The Superfund program must ensure that such environmental injustice does not continue through the cleanup phase. We further recommend that the government provide specific incentives to redress environmental equity problems that may have been created in the past.

The fourth principle is that the cleanup efforts will progress much more rapidly and efficiently if the program encourages the stakeholders involved to act cooperatively, and if responsibilities are well defined and shared among the participants. Our experience has indicated that most PRPs recognize their responsibilities. They are eager to get the job done and eliminate their cleanup liabilities. The existing process, however, appears to be based on the opposite assumption: i.e. that recalcitrance and avoidance prevail. Being based on such worst case assumptions, the current process is extremely formal and bureaucratic, and, as a result, imposes unnecessary costs and delay on all the stakeholders.

Our recommendations are based on a presumption of cooperation rather than conflict, on success rather than failure. We believe that the standard process should presume a collaborative working relationship among the participants and allow them to work together effectively and efficiently to achieve mutual goals. We recognize that some sites will not fit into this mode, and will require the more formal, enforcement-oriented process. Nevertheless, the more incentives there are for cooperation, the faster the sites are likely to be cleaned up.

CONCLUSION

Clean Sites has developed its recommendations for changing Superfund based on our decade of experience, and we have limited ourselves to commenting on those issues where we have gained the most experience and expertise.

We believe that our proposals reinforce the government's authority to specify what needs to be done to make sites safe, but, at the same time provide more opportunity for the PRPs and the community to recommend how that best can be accomplished. The result will be a more efficient and effective Superfund cleanup.

By adopting these recommendations, the Clean Sites Board of Directors believes that the nation can begin to make real progress in implementing the Superfund program. These recommendations define a cheaper, faster, and fairer way of addressing the hazardous waste legacy the country has created, while at the same time protecting public health and the environment. We believe they define a better way to clean up America.

Mr. OXLEY. Thank you, Dr. Clark.

Let me first begin with Mr. Parr. Can you describe where the more than 35 percent potential savings comes from, and let me first indicate that we had testimony from the first panel, one of the panelists, indicating that he felt that we could effectuate savings up to 60 percent, which is more what I would like to be able to accomplish. Could you share with us some ideas on that?

Mr. PARR. Mr. Chairman, our study was a relatively conservative estimate in that it looked specifically at the effects of removing the preferences for permanence in treatment and the ARAR's mandate from remedy selection.

In essence, what we did was to select 50 ROD's that had adequate information, and then looked at the range of remedies that EPA analyzed in each of those ROD's, then selected remedies that EPA, itself, determined were fully protective but did not necessarily meet the preferences for permanence in treatment or achieve the ARAR's mandate.

They simply took EPA's estimated costs for those protective remedies and compared them to EPA's cost for the remedies they selected in the ROD's which did meet the preferences and ARAR's.

That is where we get our 35 percent number, pretty conservative. I think we can expect——

Mr. OXLEY. Let me stop you there. Did you do anything last year on the bill that we had before the committee?

Mr. PARR. We did a similar study last year and this year we have made relatively minor modifications to update that study.

Mr. OXLEY. I am talking specifically about 35 percent cost savings, was that based on what the bill said last year?

Mr. PARR. No, Mr. Chairman. It was based solely on the removal of the preferences for permanence in treatment and ARAR's. The intent being a very objective study using only data and numbers generated by EPA. We expect that if you incorporated a more risk-based focus into the remedy decisions that additional savings would be realized, but we haven't attempted to quantify those as of yet.

Mr. OXLEY. Thank you.

In your written testimony, you suggest sound risk assessment principles be incorporated into the HRS scoring system. Critics of the risk assessment argue that it is more of an art than a science. How would you specifically incorporate risk assessment principles into the HRS to address these concerns?

Mr. PARR. Well, I think Mr. Tauzin's comments got at this issue earlier, that the NPL is a pretty big list of sites. At the moment, they are all treated as coequal. Obviously, among 1,300 sites, they can't all be coequal. We think that risk assessment, which we happen to think is a very robust science, ought to be used to focus EPA in on the highest priority sites among the 1,300 so that their resources can appropriately be focused so that they are getting the greatest return in terms of risk reduction for the resources that are applied at the sites.

Mr. OXLEY. Thank you.

Mr. Eden, your statement says that States should be given the authority to select a remedy at NPL sites, and it goes on to say that States should be given the authority to impose a more stringent remedy than Federal law requires.

Given your opposition to cost/benefit analysis, how do we assure Federal taxpayers and Superfund stakeholders that their money is not being misspent on marginal improvements in the remedy that make no improvements to people's lives?

Mr. EDEN. Well, I think that, first of all, that we have to recognize that there are some specific features within the individual States that are of an importance in those States, and it may require additional protection. This may be a regional specific issue, like the Great Lakes, or the Gulf of Mexico, or it may be within a State such as our Edward Aquifer in Texas.

I would add that we don't oppose the idea of the cost/benefit analysis if it is built into the process. I think our concern, though, is that we are going to be in a situation where we would have to do a cost/benefit study on every single site, and it puts either the Federal or the State agency in a position of making a decision on whether we are going to cleanup that site or not, as opposed to putting that decision in the hands of Congress to set an exposure level upfront, and then incorporating the cost issue into the overall process.

Mr. OXLEY. Would you require that the States go through a cost/benefit analysis under those procedures on the rule?

Mr. EDEN. I think there is a difference between remediation and regulation. When we are talking about a cost/benefit of a particular rule, it is a different situation.

Mr. OXLEY. Well, if you build it into the process, you are talking about doing it at the Federal level and not being involved with any site-specific changes?

Mr. EDEN. I think that you can incorporate the cost consideration into the decision about whether you have a disproportionate cost. I guess I am saying, we need to make a decision upfront about what is the exposure that we are going to have at these sites, and then try to reach that level as opposed to looking at every single site and trying to get at what are the costs and what are the benefits at every site.

Mr. OXLEY. Where does that come into play as far as the State applicable situation where States—don't the States have some obligation, some need to provide that kind of estimation?

Mr. EDEN. Well, I think that some States, like my own, have already gone ahead and developed some cleanup standards that are applicable to our own remediation process. They are not unreasonable standards. I think they are very consistent with——

Mr. OXLEY. If they turn out to be more stringent than the Federal standards, would you suggest that the States pay for the difference?

Mr. EDEN. Well, I would say that if the Federal standards that are developed are reasonable, that we would probably live with those. That is within my own State.

Mr. OXLEY. What if your State or whatever State went beyond those standards, who should pay for going beyond the standards?

Mr. EDEN. Well, I think, like I said, if you are looking at some specific need, if a State has gone through a rulemaking process to develop standards that the State feels are necessary to protect particular features within that State, that the Federal Superfund process ought to incorporate those considerations. We ought to be able to deal with those issues.

We are not in favor of continuing with ARAR's. We think that in place of the current ARAR's that only those standards that have been developed through a rulemaking process which are specific to the cleanup of sites should be considered. That is a difference from where we are right now with ARAR's where all relevant and appropriate standards would be applied.

Mr. OXLEY. Well, let me ask you this, if a State standard is better tailored, why should there be any statutory requirement that the standard be more stringent than the Federal standards?

Mr. EDEN. There may be some question about whether the Federal standards are specific enough to deal with a unique feature within a State. The Federal Government, it is like any rule, when the Federal Government develops a rule that goes across all the States, it doesn't necessarily deal with all the individual specific geographic and climatic conditions that may exist within a particular State.

Mr. OXLEY. So, in a general sense, you would allow the States, essentially, to trump the Federal standards?

Mr. EDEN. If they had gone through a rulemaking process and there is a basis, a public process, where there is a good basis for those rules, yes.

Mr. OXLEY. And the public process would also involve cost/benefit studies.

Mr. EDEN. We have to go through that now, yes, in our own State. I guess the point I want to make is that in many cases that

cost/benefit analysis is an additional cost at every site and it may be an unnecessary cost if it doesn't get you where you need to be.

Mr. OXLEY. Would you suggest some kind of a waiver or some kind of ability if, indeed, that were necessary that that could be effectuated, some kind of a standard or some kind of an ability of a waiver?

Mr. EDEN. I would think a disproportionate cost test would be appropriate. By that I mean that if you set an exposure level at a certain level, and the cost of the cleanup is disproportionate—in other words, it is 2 or 3 or 5 times what the next most cost-effective remedy would be—then that type of consideration, that more stringent remedy may need to be thrown out and go with the more cost-effective approach.

Mr. OXLEY. Mr. Eden, in your written testimony you state, CERCLA's strict joint and several liability may not be entirely equitable, but the reality is that 1 in 4 Americans live near a Superfund site. Fairness also requires that they gain some relief in their situation, and someone has to pay for the remediation of these sites.

First, my question is about the 1 in 4 Americans who live within 4 miles of a Superfund site is, what does that mean? I mean, what are we saying? Are you saying that 1 in 4 Americans is at a public health risk? If so, name the sites where Americans are currently being effected.

Mr. EDEN. That figure comes from EPA.

Mr. OXLEY. You don't stand by that?

Mr. EDEN. I don't necessarily stand by the fact that they are all at risk, public health risks from that location.

Mr. OXLEY. How is your goal of a national cleanup standard consistent with your support of 50 different standards by allowing States to alter the required cleanup levels?

Mr. EDEN. Well, I think that, like I said, if EPA were to set a national—or Congress were to set a national cleanup goal that as long as that goal was reasonable, that most of the States would probably fall in line with the national standard, but I also maintain that there may be some site-specific or State-specific issues of concern that need to be considered as well.

Mr. OXLEY. Ms. Smith, witness after witness in this Congress and the last Congress have stated that we can no longer require treatment just for treatment's sake. Many treatment remedies are very disruptive to a community with additional truck traffic and sometimes releases of hazardous materials. Many treatment remedies involve incineration and are hazardous to constituents.

I know Greenpeace has been strongly against any type of incineration of hazardous waste. Can you explain why some in the environmental community continue to support mandates for treatment of so-called "hot spots" even when there is no reasonably foreseeable exposure and won't such an approach ultimately increase the use of incineration?

Ms. SMITH. Mr. Chairman, I may misspeak, but I don't know of anyone in the environmental community who supports mandatory treatment regardless of need. If you look at what the definition, and certainly I don't have it committed to memory, but if you look at what the definition of hot spots was that was batted around last

year, it was by definition those areas that posed great potential for future release, future exposure, future problems. So it wasn't treatment for treatment's sake, but treatment because that primarily would appear to be a far more reliable method of abating a hazard than trying to contain that hot spot would be.

I mean, we strongly support a preference for treatment because treatment deals with the problem. The concern is that containment alone basically keeps you in the problem of babysitting the site, of continuing vigilance on the site, and it would be far preferable to get rid of the hazard, walk away, forget that it was ever a Superfund site, if that were possible.

Mr. OXLEY. Let me just define how H.R. 4916 defines "hot spots," to include areas which pose a "significant risk should exposure occur." I want to understand this. If I have a material under a parking lot, for example, a paved parking lot, does the phrase "should exposure occur" mean I am to assume exposure and that there is no parking lot?

Ms. SMITH. Mr. Chairman, I think, as you may recall from last year's debate, there was a lot of consideration about whether containment could be relied upon, and I don't think anyone posed that containment was going to be 100 percent effective into the future.

So the question was, where you had situations where you would have grave harm if you had exposure, then you would go ahead and treat.

We can't foresee all situations. Maybe with a parking lot an area would be protected, maybe it wouldn't, into the future. The situation at a particular site would change.

I have, and I am happy to submit for the record——

Mr. OXLEY. You mean it would cease to be a parking lot?

Ms. SMITH. It's possible.

Mr. OXLEY. Well, a lot of things are possible, but, I mean——

Ms. SMITH. Mr. Chairman, land use has changed dramatically over time, and I think, if we recall, that, indeed, the Love Canal site, Hooker Chemical put a deed notation on that deed to say that they had hazardous chemicals at that site, and no one paid heed to it. So into the future land uses might change.

One of the issues that Friends of the Earth posed last year throughout the debate was the strong need to institute some institutional controls so we could be more assured where we did have containment. But from the record that we have, we do not feel any degree of confidence that containment remedies are working, that institutional controls are in place to assure that conditions will not change.

Now, you know, a parking lot is one thing. There are others, for example, and I am happy to submit for the record, a report last year, I believe it was, from the American Rivers, flooding creating pollution threats where we had the flooding on the Mississippi and we have Superfund sites who were inundated with flooding. Sites where we had chosen containment where we had problems created.

If you look at the Stringfellow site in California, and there no one has posed that they are going to be able to clean that site up fully, but there conditions changed because the drought in California ended, and predictions of what would happen at that site changed.

So what we are saying is, containment is not reliable, thus treatment is far preferable. But Friends of the Earth has never endorsed treatment for treatment's sake. We want treatment because we want to solve the problem and not leave it to future generations.

Mr. OXLEY. The Stringfellow site, if I am not mistaken, is far from being completed, and we have already spent over $100 million; is that correct?

Ms. SMITH. I don't know the particular figures. I know it is far from being completed, but I don't know the cost figures for Stringfellow.

Mr. OXLEY. Okay.

The gentleman from California.

Mr. BILBRAY. Yes, Mr. Chairman.

Ms. Smith, you made a reference in your written testimony about the fact that the EPA should do its cleanup standards based on reasonable worst case scenarios. What is your definition of reasonable worst case scenarios?

Ms. SMITH. Well, Mr. Bilbray, it is the long scenario, basically. What we were trying to say in that testimony is that we don't see evidence, and we could take a single site, any single site, and go through the long array of factors in a risk assessment, and I am sure you are well aware we would be here for many, many days to go through each of the individual factors.

We don't think that. We think that you need to look at who some of the most exposed people will be. You need to look at people in that community relying on ingestion of fish consumption, or you need to look at what the air exposure patterns, you need to look at what you reasonably are going to anticipate may be the worst.

Do you need to look at the child who has a disorder that causes them to eat dirt, I don't know, but if you have a lot of children out there, you need to look at what reasonably near the very top levels were going to be the highest exposures.

Mr. BILBRAY. See, my concern is, you know, I have worked in different fields of the environmental cleanup strategy and too often what I see is that where Friends of the Earth may be active in one field, like hazardous materials, when we get over to another public health exposure that is directly related to the cleanup, things like the air quality issue, Sierra Club and the Lung Association tend to take more of a lead there. We have this bifurcated approach, and one of our major concerns is that the cost-effectiveness be looked at from the big picture.

In California, I don't think anybody would say that California's air pollution strategies have been ineffective, and one of the things that made it so effective is that we looked at cost-effectiveness, and we have looked at risk assessment based on total lives exposed, and we have looked at science driving this thing, and I think that is probably why we have been so successful in California.

My problem is that when I was working in the air pollution field, I found that we were actually having to develop totally new strategies based on minimizing the public health exposure of remediation, and that the weight of removing—and you said protect future generations, I have seen to where a well-intended but misguided mandate has actually increased the exposure to the next

generation megatimes because the regulation said, you won't leave it there, you will remove it, you will move it on this, and there hasn't been enough weight given to the adverse environmental impact of executing the mandate.

Are we ready to look at the big picture and move forward on that?

Ms. SMITH. I totally agree that you have to look at all the hazards. I have spent a fair amount of time with people who live around the Brio Superfund site, and there they have had significant problems with air releases. Not even to the point where they were incinerating the materials, but to the point where, apparently, heavy equipment just driving on the property was venting volatiles into the air, and exposing people to extreme hazards.

You do need to look at what the risks are going to be from the solution as well as from what your options are. You need to look at all those options. I would totally agree.

That still, in my view, does not dictate that you want to get rid of a preference for treatment. Again, it is a preference. You look at that in context, you look at what you can accomplish, you look at what your options are, including risk from the remedy.

Mr. BILBRAY. My concern is that there has not been a balanced approach. First of all, the politics are imbalanced. You tend to have certain communities who will push harder, and there are other communities that get left out in the cold. You have got people who are raising site-specific concerns, but the general overall concerns to the general public kind of gets lost in the works.

A good example is, you worry about local emissions. It may be discussed by the people who live within a mile, but then when we say, let's remove this material, let's ship it over to the treatment site or for a disposal site, the long-term impacts of shipping this 150 miles, those people, never are the air quality impacts or the health impacts of that strategy even considered into this factor. This is because the system was built more around a political agenda. So often, of what is here and now, and what really sparks, rather than the scientific agenda, that is the entire bubble has to be considered.

My problem is, I have seen a bifurcated approach that does not serve the public interest. It may help with fundraising certain neighborhoods, and I have been very involved with that since 1969, but my concern now is that rather than being involved in just fundraising, I am looking at the other side as a fact that the public health, the general public health, is what we have a mandate to protect.

I have seen this come down. You brought up the Hooker Chemical issue. I think there is a good example. They knew that it was a problem. They knew it was there, and they specifically developed on property they knew was inappropriate. I think this example is one where they did knowingly violate a good strategy.

The other strategy, though, is the fact that the remediation that I used on another point was under a freeway. There was no potable groundwater underneath it. The fact is, there is still the issue of could we do that through this process, and could we continue. I think that is where we get this balance of what is best for the process.

Because what I saw as an alternative to burying it under the freeway actually had more environmental impact than doing what was done.

Ms. SMITH. We could find instances where probably we would both believe that there had been errors made. We might even agree that the errors had been in the same wrong direction for individual sites, but, you know, maybe to show how unsophisticated my musical tastes are, John Denver, there is a line from a John Denver song, "We both know the truth is hard to come by." The difficulty is, these debates don't allow us time to really roll up your sleeves and examine in detail.

So, on its face, some of these decisions may look foolish, but in further examination some of the case-by-case examples may not appear as wrongheaded as they would just in a cursory look.

Mr. BILBRAY. Well, Ms. Smith, my issue is that we don't roll up our sleeves ever in Washington, and the people who lobby us don't. I just want to point out for the people who have rolled up their sleeve, the public health agencies out there, they are the ones that I am really looking to. The people who have actually cleaned it up, and actually gone in there and addressed the problem. That is why I think we all have to accept the fact that this program hasn't worked the way it was planned, and now we should be listening to those who have actually rolled up their sleeves and cleaned it up, and recognize that they see institutional problems with protecting the public health caused by Washington's regs. That is what I hope to straighten out.

Mr. OXLEY. The gentleman's time has expired.

Let me ask Dr. Clark, Clean Sites supports making the future use of land and other resources at a site a fundamental consideration in determining how a site should be cleaned up. Does this position include considering the reasonably foreseeable use of groundwater?

Mr. CLARK. Yes, it does.

Mr. OXLEY. And why did you come to that conclusion?

Mr. CLARK. Well, we think that it ought to cover all the resources associated with a site, and we had seen cases in which clearly unpotable groundwater supplies were contaminated, and the question is whether they should be cleaned up or not. There is no advantage to that.

I will say that the problems in groundwater can be very difficult, though, in terms of figuring out where that contamination is going to go and modelling that for the future. That is one problem.

The other issue is the issue of how well you can control it, whether the States have adequate controls sometimes.

But, nevertheless, we think, yes, you ought to look reasonably at everything, including groundwater.

Mr. OXLEY. In February 1994 in consensus recommendations, Clean Sites states that "site-specific risk assessment should make maximum use of information obtained at the site on exposures by accumulation and chemical fate and transport." Section 501(d)(3) of last year's bill placed restrictions on the use of facility-specific information.

Why should there be any limitation on the use of facility-specific information, isn't this contrary to the recommendation of Clean Sites and the need to realistically assess risks?

Mr. CLARK. I will have to admit, Mr. Chairman, that I never fully understood what was intended in last year's language. We believe that you ought to use good site-specific information, as good as you can get, and that is what you ought to base your risk assessment on.

Mr. OXLEY. Clean Sites recommends maintaining the current risk range for cancer. The 1994 report states that the range is a highly protective requirement. The recommendations state that the range provides flexibility to consider site-specific factors. Last year's bill precluded the use of a risk range.

Can you explain the value of the current risk range, and what the current cancer estimates mean?

Mr. CLARK. Well, the advantage of the range is it allows you the flexibility to take into account things like cost and technical feasibility and things like that.

What it means is more difficult, and that, of course, is what a lot of today's debate has been. We do believe that there is a lot of conservatism involved in the ranges now, and that it is clearly fully protective of public health, yes.

Mr. OXLEY. Thank you.

Mr. Trunek, you feel that incremental costs should be borne by the State in instances where the State imposes a higher standard than the one applied by Federal law. Could you explain further why that is your position?

Mr. TRUNEK. Yes, Mr. Chairman. I think it is appropriate for a Federal program to fully protect human health and the environment and, of course, we support that proposition. Having done that, if there is some site-specific or State-specific reason to go beyond, it seems to me the State should develop the resources to comply with that.

Mr. OXLEY. Last year, Congress voted separate groundwater provisions. The National Association of Manufacturers has particular problems with the groundwater provisions in the current statute. Do you believe groundwater needs to be treated separately in the legislation, or should the same consideration apply regardless of whether exposure takes place through soil, air or water?

Mr. TRUNEK. I believe that the fundamental purpose of the rule, which is to protect, again, health and the environment, should be the same no matter what the medium is that is the source of concern. So that, I don't see any reason to treat groundwater any more uniquely as long as the fundamental risk is appropriately addressed. So, no, I don't see a reason to treat groundwater differently.

Mr. OXLEY. What about the other panelists?

Dr. Clark, do you agree with Mr. Trunek?

Mr. CLARK. Yes. As I say, we taking all the resources into account and looking at future use.

Mr. OXLEY. Ms. Smith?

Ms. SMITH. Mr. Chairman, as Dr. Clark alluded to before, the difficulty with groundwater is that it is not so easy as to determine what those future uses are going to be. We are not dealing with

a static resource, number one. You have a moving resource. You have a moving resource that you actually physically cannot see, and you have to invest a great deal of money into understanding how that resource is moving, where that resource is moving, over what time period it is moving and under what changing conditions its movement will change.

Groundwater modelling, if we think that risk assessment is uncertain, let's just take a look at the history of groundwater modelling, and there are great deals of uncertainty in terms of groundwater modelling and trying to predict fate and transport of pollutants through groundwater.

Mr. OXLEY. Those are all site-specific, are they not? I mean, what you have pointed out are.

Ms. SMITH. But what I am saying is, site-specific, but say if you were in Mrs. Lambert's area in a carsed area, you have groundwater flowing very quickly, basically you can't model flow. You can see what happened, but you can't predict what is going to happen, really, in carsed areas with any kind of certainty.

In another area, you may have slow movement, and you may, if you invest enough money in very specific models and very site-specific areas, you may know what the groundwater is doing under the conditions that exist, under the rainfall conditions, under the pumping conditions. If those conditions change, then the groundwater movement will change.

The Chemdyne site in Ohio, the model told you not to worry about what was going to happen because when the contaminants reached the river they would be diluted. They went under the river. The same thing happened at Avtex.

For example, if you go out to Prince William County, you take the IBM site where there is contamination from a tank, and if the Disney theme park had gone in, then all the conditions and all the study would be different because we would have a lot of wells pulling that groundwater in a different area.

So it is not static, you can't take a picture and say, okay, now I know what is going on. It is going to be something you are going to have to be constantly vigilant and you are going to have to constantly control, and you will have to control not just drinking water uses, you will also have to control irrigation pumping, livestock pumping, industrial use, any other kind of water use that substantially has the potential to move that contamination the Superfund Program will have to control.

For that reason we think groundwater must be treated differently.

Mr. OXLEY. Mr. Parr, what is your cut on this?

Mr. PARR. Well, let me first note that as Mrs. Lincoln observed earlier, groundwater is a very important national resource, and we think that we first need to make sure that we are protecting usable groundwater. That ought to be our first priority.

In those unfortunate instances where it is already contaminated, I think we have to take a realistic view to what we can do. There have been reports over the last couple of years by the American Petroleum Institute, by the National Research Council, that have shown that our ideas that we could simply go cleanup groundwater were rather severely flawed and, in fact, those reports suggest that

maybe in as many as 75 percent of all cases, we simply can't do it. We simply don't have the technology.

So what we think we need to do is, when we are unfortunate enough to have contaminated groundwater, treat it in the same risk-based manner that we are treating any other contamination problem at a Superfund site. So, incorporate sound risk-assessment into your decision. Is the resource going to be used. If so, how, when and where.

Then look at a range of cost-effective solutions to mitigating the risks that that might present, whether that is some sort of aggressive pump and treat, whether that is some sort of intrinsic remediation that takes place naturally, whether that is point of use treatment, and what-have-you.

But we shouldn't be flying in the face of both realistic risk and our technological capability and dumping tremendous amounts of money into solutions that really aren't providing us any benefit.

Mr. OXLEY. And, finally, Mr. Eden?

Mr. EDEN. Well, I would agree with Mr. Parr and Ms. Smith. I think that you do have to look at the future potential use for groundwater and particularly in my own State, we recognize that certain groundwater is not usable, particularly in the western part of the State where you have high total dissolved solids. That is not considered usable groundwater, and it is not worth the cost of cleaning it up, but I think that the key here is to incorporate it into the overall risk assessment that you are doing for a site and recognize the unique features of groundwater in the process.

Mr. OXLEY. Thank you.

And I want to thank all of the panels for an excellent discussion of some very technical and difficult issues. We appreciate your willingness to come here and testify.

With that, the subcommittee is adjourned.

[Whereupon, at 1:35 p.m., the subcommittee was adjourned, to reconvene at the call of the Chair.]

[The following statements were received for the record:]

STATEMENT OF MICHAEL A. APGAR, ON BEHALF OF NATIONAL GROUND WATER ASSOCIATION

Mr. Chairman, Members of the Subcommittee, my name is Michael Apgar and I am representing the National Ground Water Association (NGWA). I am submitting our views on Superfund Reauthorization legislation, to be placed in the official record.

NGWA, founded in 1948, is a nonprofit professional society and trade association for the ground water industry. Our more than 25,000 members from all fifty states and nearly seventy nations include the world's leading ground water scientists, ground water contractors, manufacturers, and suppliers of ground water-related products and services.

Because of our expertise in the ground water field, we believe we can provide some insight and recommendations to Congress that may increase the efficiency and effectiveness of the Superfund program, especially those aspects involving ground water.

Now, over fourteen years after the Superfund program was created, concern remains focused on the cost and slow rate of progress at hazardous waste sites. According to a recent GAO report, hundreds of billions of federal dollars will be needed to clean up thousands of such sites across the country. As the Superfund law is being reauthorized, the Congress has the opportunity to assess the program's current status and future direction.

While many of NGWA's public and private sector members make their livelihoods in the ground water remediation market, they also have voiced the same frustrations that you and members of the public have expressed with the program. For our

part, we have attempted to work with other interested parties to clarify the technical issues that impede ground water remediation and look at how the program could be restructured to achieve adequate public health and environmental protection within the current technical constraints.

In February 1994, NGWA convened a Forum on Remediation of Ground Water. More than 200 experienced professional regulators, industries, businesses, and scientists took this opportunity to share their experiences and perspectives on ground water cleanup at Superfund sites. In October 1994, NGWA hosted a national conference that discussed the National Research Council report on ground water cleanup alternatives. 450 ground water scientists and engineers joined together to discuss the performance capabilities of innovative cleanup technologies, to assess the scientific and technological limits to restoring contaminated ground water, to consider the public health and economic consequences of contaminated ground water, and to discuss the changes in national ground water policy needed to reflect the limits of current technology.

On an on-going basis, NGWA provides a forum for discussing current ground water issues including Superfund through the two technical journals published by our organization. With a circulation of approximately 19,000 ground water scientists and engineers, the journal provides an opportunity to share information on the latest technical developments from researchers and practitioners in the ground water remediation field.

These activities combined with the Association's collective, practical experiences has led our organization to develop the following general principles that we believe should help guide Congressional debate on revision of the Superfund Program:

1. Risk assessment and risk management of soil and ground water contamination must be the basis of deciding the type and extent of cleanup and management that should be undertaken at contaminated sites;

2. The range of remedial alternatives allowable to achieve adequate risk management must be broad and flexible, and should be determined by appropriate state and local governments and affected citizens; and

3. The people who perform the investigation, evaluation and determination of site condition, risks and feasible remedies—and who perform such remediation necessary to prevent significant risks—must be qualified and competent professionals with adequate training and experience.

We have developed some specific suggestions for how these principles could be applied in the areas of site selection, site investigation, risk assessment/exposure evaluation and early intervention/removal actions that we think would be helpful for the committee to consider in crafting new legislation. We would also like to offer our ideas on other issue areas like long-term monitoring, site delisting, institutional controls, remedy implementation and especially remedy selection.

Below, are some of my personal experiences with the Superfund Program as an illustration of what is wrong with the program in day-to-day implementation and why the suggested improvements are needed.

The Delaware City Industrial Area as an example of need in the Superfund program for flexibility in using risk-based decision-making, consideration of resource values, comprehensive approach to resource management and technical competence:

The industrial area north of Delaware City is typical of many petrochemical complexes: it includes more than a dozen chemical manufacturing plants scattered around a petroleum refinery on the shore of a large navigable waterway (in this case the Delaware Estuary). Petrochemical complexes are sited along such estuaries to take advantage of water transportation, a protected anchorage/harbor, and abundant cooling water. The area is zoned for heavy industry; domestic dwellings do not, and will not exist within the industrial area.

The ground water flow system beneath the industrial area is relatively simple and isolated: ground water beneath the site migrates through an unconfined (in this unconsolidated coastal plain sand) aquifer and discharges into the waterway and/or its local tributaries. Industrial freshwater needs in the petroleum refinery are met by pumping ground water from deeper, confined aquifers and withdrawals from small tributary streams. The satellite industries are supplied by a regional public water utility whose source is freshwater streams some distance inland.

Many sources of ground water contamination are present throughout the chemical complex. These include industrial lagoons, landfills, product and waste storage tanks (above and below ground) and drum sites, buried and above ground pipelines, land-farming operations, dredge spoil impoundments, railroad sidings and highways. The regulatory programs which address these sites and sources include State and Federal Superfund, RCRA, UST, State Solid Waste and State Water Resources. Some sources of ground water contamination are not covered under any regulatory

program. A map of the jurisdictions of these regulatory programs resembles a crazy quilt (with holes!).

Unfortunately, and also typical of such areas, decades of activity (in this case four decades) have been accompanied by many leaks, spills, leaching, unwise disposal, and other contaminant discharges—both planned and unplanned, authorized and unauthorized. As a result, numerous plumes of contamination exist in the ground water beneath the area. The contaminants include chlorinated solvents, petroleum compounds, chlorinated organics, metals, salts, acids, and alkalis. These contaminant plumes respect neither property boundaries nor program jurisdictions. Doubtless, some incidents are yet to be discovered (or to happen).

Many studies of individual contaminant plumes and/or industrial properties are underway (some started decades ago), and several remediation actions (including pump and treat, soil excavation, liners, and caps) have been and/or are already being implemented. However, the inconsistencies between regulatory program requirements and remediation objectives, the technical difficulties (and monumental expense) in achieving some objectives, the technical uncertainties inherent in the subsurface, and the overlap and/or entrainment of "alien" contaminant plumes (attended by intermingling of owner responsibilities and liabilities) have thwarted the achievement of meaningful comprehensive results.

The ground water system in the Delaware City Industrial Area is used only for industrial water supply. The unconfined aquifer is neither sufficiently thick, nor transmissive enough to yield enough water for industrial purposes. Even if it were, the adjacent estuary, which is tidal and brackish (seasonally salty), is a source of salt water contamination. If significant pumpage from the unconfined—or any poorly confined—aquifer were to occur, ground water levels would be lowered and brackish water would intrude into, and replace fresh water. Thus, heavy use of such aquifers would—in the absence of industrial contamination—ruin them for possible water supply purposes.

In the Delaware City Industrial Area, which is typical of petrochemical complexes, ground water contamination is not a threat to human health through the possible exposure by contact or drinking water. The only potential adverse impact of the ground water contamination is to water—and aquatic life in—the adjacent estuary. However, only in relatively rare circumstances—such as contamination of the ground water by nonaqueous phase liquids (petroleum, organic solvents, etc.)—will the contaminated ground water pose a real threat to aquatic life. The low concentration and slow rates at which aqueous-phase (dissolved) contaminants occur in ground water will preclude any violation of water quality standards designed to protect aquatic biota from all but a a few of the contaminated situations.

Many of the contaminant plumes beneath the Delaware City industrial area will be naturally degraded and/or otherwise attenuated prior to even reaching the estuary. They will have no adverse impact on human health or the environment. Nevertheless, regulatory requirements imposed by the Superfund program are intended to restore the local ground water to better than drinking water quality. Water contaminated with low concentrations of organic solvents are pumped from the ground, treated, and—because of the stigma of Superfund—discharged directly to the estuary without any beneficial use. Thus, the cleanup activity is unnecessary and the clean water is wasted.

A more comprehensive approach to managing local ground water resources is necessary at the Delaware City industrial area, and most other such petrochemical complexes. Assessment of relative risks as a factor in decision-making is critical. In addition, however, a broader approach to resource management is necessary to improve the efficiency of the clean up process. Only the application of broad technical expertise, in concert with local land and water use planning and management can ensure that we remediate those situations necessary to mitigate risks to human health and the environment; thereby avoiding high levels of expenditure on situations which pose no risk—and create no environmental benefits.

The identification of both threatened resource values and environmental risks should foster a more realistic evaluation of actions necessary to reduce risk and/or restore resource values (i.e. benefits) in the context of remediation costs. At the Delaware City industrial area, it appears that a coordinated combination of source controls, active and passive remediation, land and water use restrictions—along with possible development of additional water supplies for beneficial use (with point of use treatment of contaminants)—would represent the most efficient and practical means of managing ground water contamination.

On behalf of my technically competent and ethical colleagues in the National Ground Water Association, I urge you to broaden the basis and increase the flexibility on which decisions involving ground water contamination remediation must be made in the Superfund process. The savings in time and money can be applied to

more pressing cases which require remediation to protect human health or the environment. Any "extra" savings could be applied to improving American productivity, competitiveness, and creating—and/or increasing—jobs.

Thank you, Mr. Chairman and members of the subcommittee, NGWA appreciates the opportunity to submit this statement to share our viewpoints on this important issue. We commend you for exploring ways to improve Superfund legislation this year and want to assist you in your efforts in the area of ground water remediation.

STATEMENT OF THE AMERICAN INSTITUTE OF CHEMICAL ENGINEERS

Mr. Chairman and Members of the Subcommittee: The American Institute of Chemical Engineers (AIChE) is pleased to offer its views on reauthorization of Superfund to the Subcommittee on Commerce, Trade and Hazardous Materials. We commend the members of the Subcommittee for addressing this very difficult and controversial issue.

The Chairman has stated that Superfund needs to be reformed so that it "gets the job done." We wholeheartedly agree, and we believe that the approach that we have developed, which we call an "Engineering Approach to Superfund Cleanups," would achieve many of the fundamental reforms that are necessary.

THE AMERICAN INSTITUTE OF CHEMICAL ENGINEERS

AIChE, founded in 1908, is a non-profit, professional association that provides leadership in advancing the chemical engineering profession. Our membership of approximately 60,000 is made up of individuals who work in industry, government, academia, and consulting, and includes students and retirees. The Institute's efforts in the public policy arena are geared towards using the expertise of our members to provide sound technical information to government officials and others involved in public policy issues that impact the practice of chemical engineering and the industries and organizations where chemical engineering is utilized.

Our members are creative problem-solvers who apply scientific knowledge and technical expertise to assure the safe and environmentally sound manufacture, use, and disposal of chemical products. As a result, the Superfund law—the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA)—is of great interest to the members of the Institute. Many of AIChE's members provide technical services, oversight, and management direction for CERCLA-mandated cleanups of hazardous waste sites. Others are interested because they are conducting research on more effective cleanup technologies.

RESULTS-ORIENTED CLEANUPS

AIChE developed a Superfund position paper last year as a professional and independent approach to suggest changes in the process of managing Superfund cleanups, in the hope that the nation could achieve its goal of mitigating hazardous waste sites in a timely and cost-effective manner. A copy of this position paper, "An Engineering Approach to Superfund Cleanups," is attached to this statement.

Our engineering approach places emphasis on expediting site cleanups in order to reduce as quickly as possible the risk to human health and the environment, rather than on administrative compliance, as is the hallmark of the current process. This could be accomplished by applying the same results-oriented, problem-solving procedures to cleanups as one would use to construct a complicated plant or building. Most importantly, while focusing on improving the cleanup process, our approach does not undermine protection of the public and the environment.

The key to utilizing an engineering approach is to implement a results-oriented process that permits compression of the multiple Superfund study processes into a single engineering study and identifies and implements a remedy in a timely manner.

The elements of a results-oriented process are:

Scope Problem and Define Goals (estimated time: 12 months)

- Identify contaminants of concern
- Conduct initial risk assessment to establish cleanup goals
- Develop initial feasible cleanup options
- Negotiate cleanup levels (subject to confirmation during remedial investigation)
- Pick most likely cleanup scenario

Conduct Remedial Investigation (18 months)

- Establish extent of contamination

- Obtain sufficient data for feasibility study, confirming risk assessment, and engineering solution
- Select feasible options

Draft and Adopt Record of Decision (6 months—

Develop Remedial Design (if necessary) (12 months)

- Prepare bid specification for remedial action

Conduct Remedial Action (12–36 months)

- Perform actual remediation
- Prove site meets cleanup levels
- Monitor (if required) and remove from the National Priorities List or action list

Obtain a Release

Essential to this process is to provide an incentive to the potentially responsible parties (PRP's) and community advisory panels to negotiate a cleanup goal that is acceptable to all the stakeholders. This requires that sufficient data be obtained quickly, in an initial investigation, to establish the contaminants of concern and an estimate of the extent of contamination within the first six months after identifying the site as a candidate for remediation. An initial risk assessment would be carried out based on the results of the initial investigation. Prior to beginning any work, an oversight committee with representatives of all stakeholder groups would be established to provide a level of comfort and trust with the work being carried out. The oversight committee and EPA would monitor progress on the cleanup through checkpoints and reviews typical of engineering projects rather than through detailed daily participation.

The risk assessment, together with the initial investigation results, would serve as the basis for negotiating cleanup goals. If agreement among the stakeholders is not achieved within a reasonable time, arbitration would begin. The arbitration would be subject to a time limit and would be final and binding.

Following the setting of the cleanup goals, a Record of Decision (ROD) would be written. The ROD would include the cleanup goals, the most obvious remediation methods, a schedule and "checkpoints," and details on how the PRP would prove that the remediation goals had been met at the end of the remediation. The remediation methods would be suggested, but could be changed. PRP's, however, will be held accountable for meeting the cleanup goals that are set. We estimate that this process could remediate sites in as little as four years.

We strongly recommend that the Superfund reform legislation include an explicit directive to EPA to pursue results-oriented cleanups so that response activities can reduce as quickly as possible the risks to human health and the environment. The Superfund reform bill that was approved by the Senate Environment and Public Works Committee last year included such a provision [Section 611 of S. 1834]. The Senate provision would have directed EPA to amend the National Contingency Plan to provide:

> alternative procedures for conducting response measures, including remedial investigations, feasibility studies, remedial designs, and remedial actions, which procedures shall:
>
> (A) specify alternatives that utilize a results-oriented approach in order to minimize the time required to conduct response measures, and reduce the potential for exposure to the hazardous substances, in an efficient, timely, and cost-effective manner; and
>
> (B) specify methods and criteria, including directives, standards, and time limits, for the implementation of the alternatives.

A similar provision was included in the Superfund bill reported to the House of Representatives last year [Section 103(a)(3) of H.R. 4916]. The Senate version is preferable because it allows the results-oriented cleanups approach to be applied to all phases of Superfund cleanups and because it requires EPA to develop procedures for utilizing the results-oriented approach.) We believe that the inclusion of a results-oriented cleanups directive, such as that in S. 1834 in the 103d Congress, in this year's Superfund reform bill would be beneficial.

OTHER ELEMENTS OF AN ENGINEERING APPROACH TO SUPERFUND CLEANUPS

Implementation of results-oriented cleanups will significantly improve the Superfund remedy selection process. Other reforms are necessary, however, in order to make Superfund more effective. These reforms include:

1. Mandating that site-specific risk assessments, based on realistic acceptable risk, be conducted wherever possible to determine the cleanup goals and priority for each site.

2. Requiring that the intended future use of the land, as determined in consultation with the affected community, be considered when determining cleanup goals and priorities.

3. Revising the provisions establishing the National Priorities List and the Hazard Ranking System to: (a) allow for more flexible, timely, and cost-effective prioritization of site cleanups; and (b) to categorize and assign sites for action based on the level of cleanup action necessary.

4. Increasing funding to support research and development of innovative remediation technologies. Permit EPA to use the superfund to pay for a portion of the backup remedy if a pre-approved application of an innovative technology fails to meet the required cleanup level.

5. Providing incentives for program managers to promote and approve the use of innovative technologies.

6. Authorizing EPA to provide releases to PRP's who conduct approved cleanups, except in cases of non-compliance with the approved cleanup goals.

7. Permitting EPA to delegate authority to administer CERCLA cleanups to States where appropriate.

8. Establishing community advisory panels at each CERCLA site to provide continuing input and advice on site cleanup decisions, including future land use.

9. Authorizing the use of generic, or "pre-engineered," remedies in the appropriate circumstances.

10. Rewarding project managers who develop and implement cleanup remedies that meet cleanup goals, are conducted on-time, and are completed under budget.

The members of AIChE, as engineering professionals, desire to see Superfund restructured so that it provides for the most cost-effective cleanups while reducing the overall risk to human health and the environment. Superfund cleanups could be done at a significantly lower cost and in less time if the individuals responsible for cleanups could apply demonstrated engineering methodologies throughout the process.

Thank you for the opportunity to present our views. We would welcome the opportunity to present our views. We would welcome the opportunity to work with the Subcommittee on crafting legislative language to implement our recommendations.

AN ENGINEERING APPROACH TO SUPERFUND CLEANUPS

The professionals of the American Institute of Chemical Engineers desire to see CERCLA restructured so that the overall risk to human health and the environment at Superfund sites is reduced and that actions to reduce the risks are done in the most timely, efficient, and cost-effective manner possible.

Although well-intentioned, CERCLA is not meeting expectations. Cleanups are too slow, cost too much, and are unfair as to who pays.

CERCLA cleanups could be done more efficiently and quickly and at a significantly lower cost if the process were reformed so that the individuals responsible for cleanups could apply sound engineering principles and methodologies from the beginning—in other words, if an engineering-based, results-oriented approach were adopted. Such an approach would entail:

- Establishing clear cleanup goals that are focused on reducing risks at the site—identifying substances of concern early and utilizing a site-specific risk-assessment based on realistic assumptions—and that take into account the intended future use of the land.
- Determining meaningful cleanup priorities under a more flexible, timely, and cost-effective prioritization process and a system to categorize and assign sites for action based on the level of cleanup action necessary.
- Streamlining the remediation process by incorporating an engineering-based, results-oriented process that permits compression of the multiple study processes into a single engineering study and identifies and implements a remedy in a timely manner.
- Assuring the availability of the right remediation technology through promotion of research, development, and implementation of new, innovative, and cost-efficient technologies that meet identified needs.
- Delegating responsibility for achieving cleanup goals to the parties doing the cleanups, with an appropriate level of oversight.
- Promoting community involvement throughout the cleanup using a "no surprises" approach.

AIChE's approach places much greater emphasis on expediting site cleanups in order to reduce as quickly as possible the risk to human health and the environ-

ment, rather than on the administrative compliance that is the hallmark of the current process.

BACKGROUND

The Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), commonly known as Superfund, was enacted in 1980 in response to the discovery of chemical disposal sites at Love Canal, NY, and elsewhere. CERCLA requires that the Environmental Protection Agency (EPA) determine the nation's most serious abandoned polluted sites and gives the agency the power to force those responsible to clean the sites.

To ensure prompt action, EPA can conduct cleanups itself and later sue the responsible parties to recover the costs. EPA can also put States in charge of cleanups. In order to cover EPA's cleanup costs, CERCLA established a "superfund" consisting of revenues from taxes on petroleum and feedstock chemicals, a broad-based corporate income tax, and general revenues.

CERCLA prescribes what appears to be a straightforward, simple procedure for selecting cleanup remedies, but in practice the procedure is complex. The law requires that a Remedial Investigation, Feasibility Study, Remedial Design and Remedial Action be undertaken at each site. It also provides for public participation and establishes liability standards. These steps are implemented under the National Contingency Plan (NCP) through extensive detailed regulations.

Thus far, EPA has identified approximately 39,000 potential CERCLA sites. The sites considered the most hazardous have been placed on the National Priorities List (NPL) for CERCLA cleanup; there currently are about 1,200 sites on the NPL, and about 100 sites are added each year. Cleanups have been fully implemented at 217 NPL sites, and cleanup activities have begun at more than 1,100 other NPL sites. Cleanups have been averaging 10 years and $25 million per site. It is estimated that the superfund and private parties have spent over $30 billion in the past 13 years to clean CERCLA sites.

CERCLA has been amended and reauthorized twice since 1980. The current authorization expires at the end of fiscal year 1994 (September 30, 1994). Funding for the superfund will terminate on December 31, 1995.

AN ENGINEERING APPROACH

As engineering professionals, the members of the American Institute of Chemical Engineers (AIChE) desire to see CERCLA restructured so that it reduces the overall risk to human health and the environment posed by Superfund sites in the most timely, efficient, and cost-effective manner possible.

The problems with CERCLA are well documented: in many cases, cleanups are too slow, cost too much, and are unfair as to who pays. Although CERCLA is well intentioned, it is not meeting expectations, and the current cleanup process inures to no-one's benefit.

CERCLA's shortcomings are in great part a result of the focus on process. Currently, CERCLA operates like a person with a broken arm who goes to the hospital and says, "My arm is broken. I think I need an x-ray, a cast, and some painkillers." But the doctor says, "We have to find out what is wrong with you. We need to do a complete physical. I am ordering a blood test, a urinalysis, an MRI, and a cardiac stress test. After I've reviewed the results of your tests, we'll find a cure for what ails you."

CERCLA needs to be reformulated to focus on results rather than process.

CERCLA cleanups could be done more efficiently and more quickly and at a significantly lower cost if the individuals responsible for cleanups could apply sound engineering principles and methodologies from the beginning. About one-half of the time and a significant amount of the costs can be saved if projects are allowed to proceed as normal engineering projects—in other words, if a problem-solving, engineering approach is adopted by all parties.

A results-oriented approach would entail:

- Establishing clear cleanup goals
- Determining meaningful cleanup priorities
- Streamlining the remediation process
- Assuring the availability of the right technology
- Delegating responsibility for achieving cleanup goals
- Promoting community involvement throughout the cleanup

ESTABLISHING CLEAR CLEANUP GOALS

Fundamental to the success of any project is to identify the desired goals at the beginning. While mandating that site cleanups meet the general standard of "protective of human health and the environment," CERCLA does not provide specific cleanup goals. This has led many to wonder "how clean is clean"? The lack of clear cleanup goals has been a major cause of contention and delay in executing CERCLA cleanups as those responsible for the cleanups (called Potentially Responsible Parties or PRP's) and regulators argue over what standards should apply in each case.

Cleanup goals must be clear. They must be realistic. They must be achievable. They must be measurable.

Cleanup goals should focus on reducing the risks at the site, utilizing a site-specific assessment of risk based on realistic assumptions regarding the frequency, duration, and nature of potential exposure to hazardous substances. The goals must take into account the intended future use of the land, as determined in consultation with the landowner, the local community, and appropriate units of local and State governments.

Establishing clear goals very early in the process would provide cost savings because: site assessments could be tailored to the cleanup goals; applicable technologies could be identified early; the process could go forward with minimum oversight; and the party doing the cleanup could be measured against clear performance criteria when the cleanup is fully implemented.

DETERMINING MEANINGFUL CLEANUP PRIORITIES

CERCLA's existing priority-setting mechanisms do not meet the objectives of conducting cleanups quickly, efficiently, and at a reasonable cost and addressing the most serious (or "worst") sites first.

Currently, all sites ranked for possible inclusion on the NPL are treated in essentially the same way; site-specific issues receive inadequate attention. However, all sites are not the same, not only with regard to the imminence of risk, but also the technological and economic feasibility of cleanup.

CERCLA should allow for more flexible, timely, and cost-effective prioritization of sites cleanups utilizing site-specific factors, including risk and future land use. Sites should be categorized based on the level of cleanup action necessary and assigned to one of the following categories:

- Removal or Remediation Pathway: Sites where there is an imminent or near-term risk and/or where technologies are available for mitigation should be subject, according to their relative priorities, to timely, risk-reducing removal or remediation actions.
- Immediate Removal/Monitor Pathway: Sites where full remedies are not practical or are of insufficient priority but require removal actions to provide a degree of protection should see such actions implemented immediately. Further action would be deferred until necessary or practical.
- Control/Monitor Pathway: Sites where practical remedies are not available should be stabilized and monitored. They could be returned to the standard track if conditions change.
- No Action/Monitor Pathway: Sites that do not require present action should be routed away from the main CERCLA pipeline and deferred until action is necessary.

Sites should be rescored in the Hazard Ranking System (HRS) after field assessment as well as after interim actions. An expanded set of removal actions should be allowed and should be reflected in the HRS rescoring. These actions may obviate the need for inclusion on the NPL in specific cases.

STREAMLINING THE REMEDIATION PROCESS

In the conventional CERCLA process, every site is treated like the first, last, and only site. Little institutional memory is built into the process. The cost, in time and money, of starting every site from scratch may have value for legal defenses, but wastes technical resources and saps financial strength.

The current remediation approach mandated by Congress has five major steps once a site has been placed on the NPL list: Remedial Investigation (RI); Feasibility Study (FS); Record of Decision (ROD); Remedial Design (RD); and Remedial Action (RA). In practice, the steps are very complex, with their attendant work plant, reviews, public participation, and related studies such as risk assessments. From inception of the Remedial Investigation to issuance of the Record of Decision often takes about 5 years. By the time the Remedial Action is fully implemented, on aver-

age 10 years have passed, with attendant added costs, since the decision to clean the site was made.

The current process can be shortened by adopting an "engineering approach." This approach would examine the most recent similar projects, look at what's different at the site, incorporate lessons learned at prior sites, modify the approach to account for the differences, and proceed to a remedy. It would focus on the ultimate goals of protecting human health and the environment. Remedies would be selected from a truly feasible set and applied with flexibility to respond to site conditions. The key is to set, with the concurrence of the public and based on a risk assessment, the criteria by which the site will be judged as being remediated. The steps for this and the following actions are:

Scope problem and define goals
- Identify contaminants of concern
- Conduct initial risk assessment to establish cleanup goals
- Develop initial feasible cleanup options
- Negotiate cleanup levels (subject to confirmation during remedial investigation)
- Pick most likely cleanup scenario

Conduct remedial investigation
- Establish extent of contamination
- Obtain sufficient data for feasibility study, confirming risk assessment, and engineering solution
- Select feasible options

Draft and adopt Record of Decision

Develop remedial design (if necessary)
- Prepare bid specification for remedial action

Conduct remedial action
- Perform actual remediation
- Prove site meets cleanup levels
- Monitor (if required) and remove from NPL or action list

Obtain a release

The steps outlined above are similar to the current remediation scenario, but with several major exceptions: more would be done in parallel; likely remedies would be selected and focused on much earlier; and the work would be directed toward cleaning up the site. The proposed process looks at developing minimum data to meet the needs of the solution. The process would not be rigid, but rather would be outcome-oriented on a case-by-case basis. Where sites have met the established cleanup criteria, a release should be available.

The proposed process would require three to five years and should be carried out at two-thirds the cost because time, analytical, and engineering costs can be reduced significantly. The initial phase prior to the negotiation of cleanup levels should take six months to one year. The negotiation should take three months. The feasibility study should take six months, and the Record of Decision with public hearings another six months. Cleanup should take two years for most sites; thus the entire process can be fully implemented in under five years.

ASSURING THE AVAILABILITY OF THE RIGHT TECHNOLOGY

Selecting the right remediation technology is key to the success of an results-oriented approach to cleanups. Currently, site cleanups are hampered by the lack of adequate remediation technology. New, innovative and cost-efficient technologies can improve site remediation by providing better cleanups, accelerate the pace of cleanups, and decrease costs. However, innovative technologies have not been effectively utilized because of a number of barriers. There is a general resistance in EP to approving the application of an unproven remediation technology, and administrative procedures delay the evaluation and approval of innovative technologies. PRP's often are hesitant to utilize innovative technologies because of the process delays, liability, and costs involved if an innovative technology fails to meet cleanup goals. Often there is not a sufficient market for investors to fund development of innovative remediation technologies.

Technology development should be refined so that it overcomes these barriers. The first step is to identify specific cleanup technology needs, particularly those that have the potential for the greatest cumulative risk reduction or a significant reduction in costs. The selection of the right remediation technology should be encouraged at four levels cooperative research of new technologies; development of techniques for remediation of significant problems that would not sustain commercial development; risk-sharing methodologies for implementation of new technologies; and administrative incentives to promote the use of innovative technologies.

DELEGATING RESPONSIBILITY FOR ACHIEVING CLEANUP GOALS

EPA retains a great deal of supervision and oversight of the conduct of cleanups, while legal representatives of PRP's exercise considerable control over cleanups in order to protect their clients' interests. CERCLA generally precludes EPA from providing a release from future liability for unknown site condition; in addition, EPA does not release PRP's who conduct cleanups using remedies chosen and approved by EPA from liability if the remedy later fails or is found to be inadequate.

With the establishment of clear goals and meaningful priorities, responsibility for achieving site cleanups can and should be delegated to the parties doing the cleanups. The delegated parties, in turn, should assign operational responsibility to the technical experts assigned to the cleanup.

A single project team headed by an experienced technical professional should be selected to run the project. The team will need to include technically competent representatives of all agencies, communities, and firms involved in the cleanup. It should work together to resolve the technical aspects of the cleanup from a holistic approach. The professionals need to be empowered and supported by management, without unnecessary interference, but must be held accountable for achieving the cleanup goals.

In order to ensure accountability, there needs to be appropriate oversight. Where possible, EPA should delegate the oversight, pursuant to Federal standards, to the State. The current oversight practice is to have a representative on the site overseeing the work of the engineers and PRP at every step and usually every day. The project team needs to be allowed to run the project with review and concurrence at key milestones in the project but without detailed review of, and requiring changes in, items such as the Health and Safety Plan, the number and location of samples to be taken, and detailed work plans. This approach would put the responsibility for meeting the established operating practices, health and safety criteria, and cleanup levels where it should be: with the PRP and the engineer. PRP's who conduct cleanups that are approved by EPA should be provided an opportunity to obtain a release from future liability for the remedy, absent non-compliance with the approved cleanup plan.

PROMOTING COMMUNITY INVOLVEMENT THROUGHOUT THE CLEANUP

The public often feels that it does not have adequate information about proposed CERCLA remedies and opportunities to provide timely input into the cleanup process. This results in a lack of trust in the adequacy of cleanups.

The plan to achieve the cleanup must be formulated with the assistance of the community. The public should be involved in cleanup decisions, using a "no surprises" approach. This means early and continuous public consultations. Each site should have a community advisory panel consisting of PRP's, local interest groups, local government representatives, and the general public to provide continuing involvement in decision-making.

In addition, the general community should be brought into the process through public forums, periodic progress meetings, newsletters, press releases, open houses, and information sessions. In addition, all documentation should be available for easy public review.

Most importantly, there must be an agreed-upon mission statement and commitment statement that guides the cleanup team members and identifies the community as their "client." Community trust will only come about by recognized deeds and achievement of timely milestones.

RECOMMENDATIONS

Because CERCLA affects our membership and because of our special skills, AIChE strongly urges that the CERCLA hazardous substance cleanup process be reformulated to incorporate a more efficient and cost-effective, engineering-based, results-oriented approach. This can be achieved by revising CERCLA and its implementing regulations to:

1. Incorporate an engineering-based, results-oriented process that permits compression of the multiple study processes into a single feasibility study and identifies and implements a remedy in a timely manner.

2. Mandate that site-specific risk assessments, based on realistic acceptable risk, be conducted wherever possible to determine the cleanup goals and priority for each site.

3. Require that the intended future use of the land, as determined in consultation with the affected community, be considered when determining cleanup goals and priorities.

4. Revise the provisions establishing the National Priorities List and the Hazard Ranking System to: (a) allow for more flexible, timely, and cost-effective prioritization of site cleanups; and (b) categorize and assign sites for action based on the level of cleanup action necessary.

5. Increase funding to support research and development of innovative remediation technologies. Permit EPA to use the superfund to pay for a portion of the backup remedy if a pre-approved application of an innovative technology fails to meet the required cleanup level.

6. Provide incentives for program managers to promote and approve the use of innovative technologies.

7. Authorize EPA to provide releases to PRP's who conduct approved cleanups, except in cases of non-compliance with the approved cleanup goals.

8. Permit EPA to delegate authority to administer CERCLA cleanups to States, where appropriate.

9. Establish community advisory panels at each CERCLA site to provide continuing input and advice on site cleanup decisions, including future land use.

Finally, although these recommendations, if enacted, would greatly improve CERCLA, they will not totally solve CERCLA's problems. A number of the problems that CERCLA has experienced can be traced to the law's system for apportioning liability for cleanups. It is impossible to fix CERCLA so that it conducts cleanups quickly, efficiently, and cost-effectively without fixing the liability system. CERCLA must be amended to provide a liability system that promotes certainty, efficiency, equity, and finality—and does not delay cleanups or disproportionally absorb cleanup resources. The system must provide both strong incentives, including liability releases for timely resolution of liability claims, and strong financial disincentives for failure to resolve liability issues quickly.

SUPERFUND REAUTHORIZATION
State Role-Voluntary Cleanup

THURSDAY, JUNE 15, 1995

HOUSE OF REPRESENTATIVES,
COMMITTEE ON COMMERCE,
SUBCOMMITTEE ON COMMERCE, TRADE,
AND HAZARDOUS MATERIALS,
Washington, DC.

The subcommittee met, pursuant to notice, at 9:35 a.m., in room 2123, Rayburn House Office Building; Hon. Michael G. Oxley (chairman) presiding.

Members present: Representatives Oxley, Upton, Gillmor, Crapo, Bilbray, Ganske, Frisa, Norwood, Tauzin, Furse, Brown, Lincoln, Deutsch, Rush, Stupak, Bliley, and Dingell.

Staff present: Nandan Kenkeremath, majority counsel, Frederick Eames, majority counsel, and David Tittsworth, minority counsel.

Mr. OXLEY. The subcommittee will come to order.

We will begin with opening statements. At this time the Chair would recognize the chairman of the full committee, the gentleman from Virginia, Mr. Bliley, for an opening statement.

Chairman BLILEY. Thank you, Mr. Chairman. Thank you for holding this hearing. Superfund presents us with a golden opportunity to demonstrate the kind of bold reform the 104th Congress is all about. This bureaucratic, inefficient, waste-riddled program is ripe for revision. Government can work better for the people if it is closer to them. Superfund offers us another exciting opportunity to prove this point.

As with so many other issues this year, the debate has dramatically shifted on the appropriate role of the States and Federal Government in Superfund. I am glad that the administration has joined us this year in looking at stronger reforms to get States more involved in the program.

When so many other Federal environmental programs include provisions that allow them to be operated by the States, it is difficult to understand why Superfund does not give such authority to the States. The States are much more likely to be responsive to and understanding of local concerns and interests than the Federal Government.

To be frank, the manner in which many of them currently run their own State Superfund programs might lead one to the conclusion that they are simply better able to handle the job than the Federal EPA.

By and large, State sites take less time to clean up and are less expensive to clean up. Overall the States are contributing vastly

more to the protection of human health and the environment each year through contamination cleanup than the Federal EPA through Superfund.

Let me enumerate some important goals we need to accomplish as we shift authority to the States.

One, eliminate the problem of two cooks in the kitchen. Under the current program a State might undertake an action at a site that is not on the National Priorities List only to find later on that EPA wants to put the site on the NPL. Wherever there is a prospect that two agencies will seek to address the same problem in conflict with one another, government is failing its mission.

Two, ensure that government will be protecting human health and the environment. A minority of States do not have the resources or the interest in handling contamination cleanups. We need to make sure that people are not left facing some danger and that contamination is being left to spread without the prospect of any governmental intervention.

Three, reduce delays, reduce costs and reduce inefficiency. All parties must contribute to this effort. We would not be properly discharging our responsibilities if we handed off to the States a broken program or subjected parties at sites being handled under the Federal program to unnecessary cost.

Also today we will review the issues associated with voluntary cleanups and brownfields, underused sites where contamination and fear of liability has prevented more beneficial uses. For 15 years now excessive liability standards that can grab innocent people even if they had nothing to do with causing the contamination have prevented willing entities from cleaning up sites and putting them to good use.

Environmental liability has scared people so much that it is cited as a cause of fundamental change in urban America—the flight of capital out of the cities and into the suburbs, taking jobs, tax revenues and whole neighborhoods with it.

I commend you, Mr. Chairman, for your excellent work in putting together today's hearing and look forward to the dialogue with the witnesses as we proceed.

At this time I yield back any time I may have remaining.

Mr. OXLEY. The Chair has an opening statement. Let me open with a remark about our last hearing, which was on the issue of remedy selection. We saw some serious problems with an excessively costly program not related to real risks. Kip Viscusi's data that the median cost of remedies was $330 million per theoretical cancer incidence avoided for groundwater cleanups and over $500 million per theoretical cancer incidence avoided for soil remediation is a sobering testament to an inefficient program.

Also, the oral testimony of the witnesses showed a far greater willingness than was apparent from the written testimony to ensure that the costs are reasonably related to benefits or remedies.

I ask that all parties contribute to this important effort.

It was also clear to me that our current liability system is fundamentally unfair and inefficient. Those that are simply willing to accept the status quo in this area are ignoring the fundamental problems.

Again, I ask that all parties contribute to the effort to reform the system with a discussion of the problems. We are not going to leave these problems in the Superfund law simply because someone else is paying for it. I believe serious discussion will be more important than position papers.

Today marks the third in our series of hearings on Superfund reauthorization. Our main focus is on the role of the States, not just on the Federal Superfund program but in the cleanup of contaminated sites in general.

We will also focus today on voluntary cleanups and the redevelopment of brownfields, idle sites whose return to productive use may be impeded by environmental liability.

The role of the States in cleanup of contaminated sites is one of the most important issues in the Superfund reauthorization. There was consensus in the 103d Congress and there is consensus now that significant portions of the Superfund program ought to be turned over to the States. A number of reasons can be cited for this: (1) contaminated sites are essentially local problems that should be handled by a level of government that is closer to the problem; (2) States have the responsibility and the authority to act to protect the health and safety of their citizens; (3) the Federal EPA is perceived as less efficient at managing cleanups; and (4) most States have the capability, expertise, authority and funding to deal with contaminated sites.

One need only look at some of the figures in the EPA's 50 State study to recognize the maturity to which many State programs have risen.

Superfund has been enormously costly, grossly inefficient, patently unfair, and short on results. Our aim is to make it less expensive, more efficient, fair and results-oriented. In considering options to turn the program over to the States we need to keep those goals in mind. We need the States to participate as partners in this effort and keep our ultimate focus on the costs and benefits of cleanup to our society.

I would like to especially thank the witnesses from the States of Virginia, Colorado, California, Delaware, and my home State of Ohio for coming to represent the States' point of view.

Our third panel at today's hearing will focus on the issues of voluntary cleanups and environmental liability at brownfields. This is an issue that I am particularly interested in and on which I focused during the 103d Congress. Title III of the bill our committee reported last year included a number of my suggestions and recommendations.

We must make it easier to put these sites back to productive use. Developers pass over boarded up factories and industrial sites in neighborhoods where jobs are needed most because of fear that they will be liable for all required environmental cleanup. Municipalities do not want to step in because they too fear liability. So do lenders who fear the foreclosure could implicate them as owners under the statute.

I am particularly pleased to have Mr. Jim Kirk, CEO of OHM Corporation based in my hometown of Findlay, here to testify. Mr. Kirk has grown his company, which began in 1969 building municipal wastewater systems, into a company with 3,100 employees

around the country that is a leader in handling all kinds of environmental remediation work. OHM has developed some very innovative technology over the years and has been integrally involved with voluntary response issues.

I thank all the witnesses today for their contributions to our efforts.

Are there other members seeking an opening statement?

The gentlelady from Oregon.

Ms. FURSE. Thank you, Mr. Chairman. I think this is a most important hearing and I am very glad that you have arranged this. I think the Federal Government has a very important role in assisting States with the cleanup necessary to protect the health of citizens of those States.

I am particularly pleased with the partnership that the EPA and the State of Oregon have developed in reaching out and trying to achieve flexibility in achieving Superfund goals. I believe that this is partly a result of the work of the Vice President in reinventing government.

I look forward to hearing from our distinguished panels as to how we can better get the Federal Government and the State to work together on these goals which we all share.

Thank you, Mr. Chairman.

Mr. OXLEY. The gentleman from Michigan.

Mr. UPTON. Thank you, Mr. Chairman. Last year I described Superfund as a super headache and the phrase has taken a new life of its own. The reality it expresses was driven home anew only yesterday when I heard from the latest group of small businesses to have received their greetings from EPA.

In this case they had paid a firm to haul off and recycle used oil. The firm didn't do a very good job, and we have a Superfund site—Indiana—as a result.

This is a depressingly familiar story. Every day in America someone gets caught up in a Superfund web, often for actions taken years ago, actions that were completely lawful at that particular time.

All that I can tell them when they call me or write in panic is that just about everybody here on Capitol Hill knows what a nightmare Superfund has become and we just can't agree yet on ways to fix it. Well, this is a new year. They deserve better, Mr. Chairman.

The ambitious hearing schedule that you have laid out suggests to me that the long overdue reforms are on the horizon and coming quickly. Tens of thousands of Americans will thank you for this. I appreciate your leadership and yield back the balance of my time.

Mr. OXLEY. The gentleman's time has expired.

Are there further opening statements?

Dr. Ganske.

Mr. GANSKE. I ask unanimous consent to enter a statement for the record. I do want to thank our colleagues for coming today and I look forward to their testimony.

Mr. OXLEY. I would ask unanimous consent that all members' opening statements be made part of the record.

[The opening statements of Representatives Greg Ganske, Paul E. Gillmor, Michael D. Crapo, Brian P. Bilbray, and Bobby L. Rush follow:]

STATEMENT OF HON. GREG GANSKE, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF IOWA

Thank you Mr. Chairman, I understand we have a number of panelists today, so in the interest of time I will be brief.

First, let me say that I appreciate your continued leadership on this issue. Superfund reform is a complex issue that touches many areas and will have a broad financial impact on both the private and public sector. The message I have received from the hearings the Subcommittee has held so far in talking with my constituents is that the Superfund program is broken and in need of repair.

As a new Member to the Congress and this Committee, one of the concerns I have in this area is the role of States in Superfund cleanups. The 104th Congress has demonstrated its commitment in returning a number of issues to State control. Some who will testify here today will argue that all Superfund responsibilities should be turned over to the States. This is a very intriguing proposition. A number of States have taken strong actions in addressing hazardous waste remediation. In addition, a number of States at the urging of their metropolitan areas have expressed an interest in further addressing the question of industrial site or "Brownfield" cleanups. In both cases, the Environmental Protection Agency has shown a willingness to discuss flexibility in allowing States to take the lead in clean-up remediation.

Nonetheless, several questions and concerns remain. Is the EPA being responsive enough to State needs, and if not, what legislative changes will be necessary to provide the needed flexibility? In turning over some level of responsibility to the States, do we run the risk of incurring the development of 50 different clean-up standards. How should we address situations where individual States opt to move opposite to our reform efforts? Should we give States the option to turn jurisdiction back to the Federal Government at some later date?

Mr. Chairman, I am pleased we have this opportunity to discuss these questions further. I am very interested in hearing how our panelists will respond to the questions of the State role in Superfund reform and look forward to today's hearing. Thank you.

STATEMENT OF HON. PAUL E. GILLMOR, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF OHIO

Mr. Chairman, if Congress is to reauthorize Superfund and restructure it into a program that works, it is imperative that we examine every possible avenue to improve the program. This includes looking at the empowerment of State governments in cleaning up hazardous waste sites.

While the current Superfund program does not generally allow for State delegation of authority, last Congress, this committee reported a bill that moved toward empowerment by providing some form of State delegated authority on Superfund functions. I believe this was a real step in the right direction and look forward to hearing what our panelists have to say on that issue.

In addition, today's hearing will focus on brownfields and their redevelopment. As you know, Mr. Chairman, our State of Ohio has plenty of experience in dealing with brownfields. I believe it is important that we find ways to get these sites cleaned up and back into economic activity, especially in industrial areas. I support voluntary clean up provisions that permit developers and property owners to use an expedited, State approved, process for cleaning up this waste sites, ensure that the sites are suitably uncontaminated, and provide assurances on future liability. Since this issue can also be contentious, I also look forward to hearing from on witnesses on that score.

STATEMENT OF HON. MICHAEL D. CRAPO, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF IDAHO

Mr. Chairman, thank you for holding these hearings and providing the opportunity to discuss the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), better known as Superfund.

I have several Superfund sites in my State and the decisions we make here will have a direct impact on these sites.

Many areas of Superfund need to be addressed.

One of the issues we are here to talk about today is State role.

I have a site in my State in the town of Triumph which has gained national attention due to the efforts of the town to prevent any further action by the Environmental Protection Agency.

When EPA first discovered the Triumph Mine and decided it was a potential hazard Triumph citizens welcomed the Agency with enthusiasm. But when studies on the town's lead levels proved to be inaccurate and EPA started suggesting radical cleanup solutions and proposed to list the site on the National Priorities List the town became disillusioned.

Triumph citizens watched as EPA frightened their children, ignored their questions, hid information from them, and generally refused to involve them in the process. Their property values plummeted. Bank loans were rescinded.

Today, after, over three years of struggle, congressional intervention and national media attention, a memorandum of agreement exists between EPA, Region 10 and the Idaho Department of Environmental Quality (DEQ) allowing State deferral of authority over the Triumph site.

I strongly supported State deferral for the community of Triumph in the past Congress because it was the best option available under current Superfund law. However, months after the deferral became official the process in Triumph is still bogged down.

The State still must abide by current Superfund law and current Superfund law is broken. The State is still in the beginning steps of the cleanup process. They are no further than the remedial investigation/feasibility studies (RI/FS). EPA reviews every proposal and decision the State makes.

Recently DEQ submitted to EPA a sampling and analysis plan proposed by the PRP's consultants. When DEQ got the plan back it had been reviewed by *three separate EPA entities.*

My goal when I supported State deferral was to help streamline a convoluted and laborious process. This is not streamlining.

For these reasons I would suggest and support the delegation of authority to States to cleanup their sites unimpeded by the looming threat of EPA intervention. We are wasting billions of taxpayer and private money in duplicative efforts that yield few if any results. States must be given the power to make their own decisions and produce their own desired results. State delegation is the best vehicle to adequately satisfy this need.

STATEMENT OF HON. BRIAN P. BILBRAY, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF CALIFORNIA

Mr. Chairman, thank you for scheduling this hearing, as part of the much-needed process by which we are reviewing Superfund from head to toe. I will be brief, so that we can hear and learn from our witnesses. I am very interested in the primary subject of today's hearing, that being the role which States play, or are capable of playing, in the cleanup of hazardous wastes.

Of great interest to me is the existing role of the States under the current CERCLA statute, and what potential there is for this role to be expanded. It is my understanding that more than a few States have enacted comprehensive and effective hazardous waste cleanup programs without the assistance or involvement of the Federal Government.

Mr. Chairman, I think that if Superfund were a horse, we'd have shot it long ago. With this in mind, it is very timely for us to be examining whether the potential exists for those States, which have taken the initiative to develop their own cleanup programs, to be permitted a larger role in the grand scheme of Superfund. Right now, CERCLA does not allow for the delegation of these responsibilities to the States, nor does it provide States with the option to operate an equivalent program in place of CERCLA.

The inadequacies of Superfund are numerous and well-documented, and I think it is wise of the Committee to be exploring alternate routes to the common goal of effectively addressing hazardous waste disposal problems, in the interest of the public health. Thank you, Mr. Chairman.

STATEMENT OF HON. BOBBY L. RUSH, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF ILLINOIS

Thank you, Mr. Chairman, for calling this important hearing to order today.

The issues addressed in today's hearing are of great interest to the residents of my congressional district. One of the issues to be discussed today in particular is an interest to me. As a former alderman and chairman of the Chicago City Council Committee on the Environment, I can appreciate the significance of providing incentives for private business and local governments to purchase and redevelop idle city land.

Inner cities all over this Nation have similar problems associated with blocks upon blocks of abandoned buildings and glass-covered lots. Many of these sites were once surrounded by thriving commerce. Now, these areas are plagued by crime and other problems associated with this neglect and disrepair. You will find in most cities a willingness from citizen groups and local governments to do something about this. But because of the fear of becoming liable for cleanup activities, or from declining market rates for these properties as a result from being registered on EPA's liability lists, many of these groups do not act upon their good intentions.

In the State of Illinois alone, there are over 750 sites that have been removed from EPA's scrutiny under Superfund and are currently available for voluntary cleanup activities. Without EPA's Brownfield Initiative, these sites would have little chance of ever being redeveloped.

Mr. Chairman, the EPA should be commended for its activities in this regard, and for recognizing that something can be done to help revitalize and redevelop these once thriving areas.

I look forward to hearing the testimony today from all the witnesses, and look forward to enacting legislation that further provides incentives for the revitalization of inner-city neighborhoods.

Thank you, Mr. Chairman, and I yield back the balance of my time.

Mr. OXLEY. We now turn to our panel of members and recognize the senior Republican from Ohio, the gentleman from Navarre, Mr. Regula, as well as our good friend and colleague, Mr. Visclosky from Indiana.

We will begin with you, Mr. Regula.

STATEMENTS OF HON. RALPH REGULA, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF OHIO, AND HON. PETER J. VISCLOSKY, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF INDIANA

Mr. REGULA. Thank you, Mr. Chairman. It's clear from the opening statements of yourself and Mr. Bliley and others that you understand the problem. So I'm going to summarize. I ask unanimous consent that my full statement be made a part of the record.

Mr. OXLEY. Without objection.

Mr. REGULA. Mr. Chairman, I am very much interested in encouraging State activity, as you outlined in your own remarks, in revitalizing and remediating sites for which EPA does not have the resources to address, the non-Superfund sites or the so-called brownfields.

In Ohio, Indiana, Pennsylvania and some of the other industrial States where there was a lot of heavy industry now are faced with the so-called brownfields, and if we don't address this issue soon, we will begin to encounter brownfields in the suburban areas. Many companies have already in the past moved out there and for various reasons relocated. So even the suburbs have brownfields.

I think it's a problem that transcends just the big cities, but it certainly is one of the severe situations. Note, for example, in Cleveland, Ohio, you can go out East Euclid Avenue and see mile after mile of what could be industrial sites that could produce jobs. We are talking a lot about welfare reform in this Congress, but as

our Governor once said, the best welfare program is a job. But to have jobs in the inner cities you have to have people locate there. You have to have industries that come in.

Because of the handicaps, the concerns, the fears that the lenders would have, as well as the investors, they simply won't touch a brownfield. It might be an area that doesn't have hazardous materials, that has no threat to human health, but nevertheless it sometime had some activity on it and therefore it becomes not a greenfield site. The companies that should locate there do not do so. Consequently we don't have jobs in the inner cities; we don't have an economic base to support local government, to support the schools. You can find this in almost any city in America.

I think the States are willing to step forward and resolve the problem provided that they can have a final decision. If a State makes a decision through its own procedures that a site is not threatening, that it could be used as an industrial site, that should be the final word, so that an investor, a lending institution has a degree of comfort knowing that they are not going to sometime down the road be held responsible for this particular location.

In Canton, Ohio, I have a company that wants to expand, put down a concrete slab over an area where they had a junkyard. It is not a toxic area at all. It would make 225 more jobs right in the inner city. A lot of advantages. But they are afraid to do it and their lenders likewise are afraid to loan.

We have talked a lot in the last 6 months about giving States more responsibility. Certainly this is a classic opportunity to do so.

I salute all of you for being a part of the hearing process and recognizing the problems that are before us. Congressman Visclosky and myself have introduced legislation. I think we have some ideas in there that would be constructive if they were to be incorporated into whatever your final product here is.

I would reiterate that I think it is extremely important that we get legislation that allows the States to make a final judgment, work with the local communities, resolve whatever concerns there might be so that industry and businesses will invest in the inner cities, will invest in these so-called brownfield locations. It is essential if we are to preserve the economic viability of our cities prospectively.

I think it is great that you are examining this problem and have under consideration legislation. I thank you for the opportunity to be here. I appreciate getting on. We have a full committee of appropriations. Mr. Chairman, I would like to be excused at this point.

[The prepared statement of Hon. Ralph Regula follows:]

PREPARED STATEMENT OF HON. RALPH REGULA, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF OHIO

Mr. Chairman: I am pleased to come before you today to discuss the importance of state roles in revitalizing and remediating our nation's contaminated sites. I appreciate you calling a hearing on this issue.

Specifically, Mr. Chairman, I am interested in encouraging state activity in the revitalization and remediation of those sites for which EPA does not have the resources to address—non-Superfund sites. Such sites are often referred to as brownfields, connoting sites which are used, not green, and possibly (although not always) contaminated. These sites are often found in our urban areas. In Ohio, Indiana, Pennsylvania and other "rust belt" states, these sites are located where industries once thrived. If we do not address this issue, too soon we will begin to encoun-

ter brownfields in our suburbs and other rural areas where development has been forced to occur due to environmental and human health concerns and the liability which is associated with recycling urban sites.

As you are well aware, attention to the issue of brownfields has come a long way from primarily being recognized as a local or regional problem to one of national proportions, propelled by the unintended consequences of the environmental laws which Congress created.

Local and state governments have been trying to recycle these sites for a long time. In fact, many states have created voluntary cleanup programs to attract private investors and developers to reuse these sites. Ohio is one such example, having passed a state voluntary program last year.

I am pleased to see that our federal agencies, specifically EPA and HUD, are beginning to recognize that remediation is imperative to the equation of recharging our blighted areas. Certainly, EPA has made positive steps not only in giving states with strong environmental response program more authority with which to remediate sites, but in creating a Brownfields Action Agency earlier this year to advance the cleanup and reuse of contaminated industrial sites. I look forward to the outcomes of their work.

Despite these state and federal activities, I remain convinced that such action is not enough. Redevelopment efforts via state voluntary programs are moving forward. However, fear of liability by the prospective purchaser and the financier and lack of financing remain as inhibitors to further economic development of brownfields.

Congress is in the position to break down those barriers. The legislation which my good friend from Indiana, Pete Visclosky and I have introduced, HR 1620 and 1621, empower states to maximize their efforts to recreate economic opportunities. Entitled "The Brownfield Cleanup and Redevelopment Act" and "The Brownfield Cleanup and Redevelopment Revolving Loan Fund Pilot Project Act," HR 1620 and 1621 would: establish a process whereby states can be authorized by the EPA to make final decisions on cleanup and future liabilities for low and medium sites (non-Superfund sites); provide loans to clean up some these sites to attract private investment and create local jobs.

HR 1621 establishes a process whereby states can be authorized by EPA to make final decisions on cleanup and future liabilities for low and medium level contamination. The process would require EPA to develop minimum criteria to certify state voluntary cleanup programs such as: adequate public participation; technical assistance throughout each cleanup; oversight capacity and enforcement authority; and certification to the owner or prospective owner that a site is clean once the process is satisfactorily completed. Those states meeting specific program criteria would then be authorized to make the final decisions on cleanup and future liability for the property. Thus, because the states would be making such final decisions, the fear of future federal involvement can be eliminated.

HR 1620 would provide capital to cover up-front cleanup costs. Through our state voluntary cleanup program certification bill, federal money would be loaned to states, which in turn could use these monies to capitalize revolving loan funds to support local cleanup and redevelopment projects. Assistance would be targeted to public and private industrial owners with firm plans to clean and reuse those sites for "clean" manufacturing purposes. States would then be required to repay the loan after a designated time.

As an aside, Mr. Chairman, in no way is the intent of this financing program meant to be permanent or to replace the lending community. Merely, the program would encourage cities to financially jumpstart redevelopment. Our revolving loan pilot project fund could help spawn local governments to strategically redevelop sites as anchors of communities.

Mr. Chairman, I encourage you to rectify the unintended consequences of the environmental laws which we created. We believe our legislation is the gateway to forming innovative and committed partnerships of all levels—local, state and federal governments, lending institutions, developers and communities. Through these partnerships the barriers to brownfield redevelopment can be overcome to provide jobs, a tax base for local governments, and an improved quality of life for city residents. Thank you.

Mr. OXLEY. Just so that you are kind to the authorizing committees, you are excused.

Mr. REGULA. We are not authorizing on appropriations committee unless requested to do so, which I found is not too uncommon.

Mr. OXLEY. Thank you, Ralph, for your testimony.

The gentleman from Indiana.

STATEMENT OF HON. PETER J. VISCLOSKY

Mr. VISCLOSKY. Thank you, Mr. Chairman. I would also ask that my entire statement be entered into the record.

Mr. OXLEY. Without objection.

Mr. VISCLOSKY. Mr. Chairman, thank you, and I want to thank all of your colleagues for attending the hearing. I do think it's a very important issue. I would associate myself with the remarks of Mr. Regula. It has been a pleasure in the 103d as well as the 104th Congress to join with the gentleman from Ohio in introducing brownfields legislation.

As you know, brownfields are abandoned industrial sites that litter our urban and suburban centers. Although many of these sites have long been abandoned by their original owners, it is difficult to find new interest in redeveloping them.

Old industry generally means old contamination which even at relatively low levels becomes a large, to use Mr. Upton's language, headache for developers. The fear of lingering liability under the current Superfund law is enough to drive new industry out to previously untouched greenfield sites, leaving the dreams of new jobs and economic development in our cities unfulfilled.

This year Mr. Regula and I have introduced two bills.

The first is H.R. 1621, Brownfield Cleanup Revitalization Act, which would establish a process whereby States would be authorized to make final decisions on the cleanup of sites in low or medium priority contamination.

The second bill, the Brownfield Cleanup and Redevelopment Revolving Loan Fund Pilot Project, H.R. 1620, would provide pilot project loans to eligible sites in severely economically distressed areas.

Both of the bills are designed to encourage privately-funded cleanups and redevelopment of contaminated industrial sites by removing some of the barriers that have driven prospective developers to build on undeveloped greenfields.

State efforts to encourage voluntary cleanup and redevelopment of low and medium priority sites are currently hindered by Federal requirements for environmental permits to conduct the cleanups, and by the lack of Federal certification for these efforts. Even when these sites are not subject to Federal corrective action, the fear of liability for past contamination often inhibits their cleanup and redevelopment.

I believe that by giving the States the power to create a distinct beginning and end to the voluntary cleanup process we remove a crucial roadblock to redevelopment. One of the most effective ways to promote the cleanup of our Nation's hundreds of thousands of mildly contaminated sites is through these voluntary State cleanup programs.

To date almost 20 States have implemented or are in the process of implementing voluntary cleanup programs, and by certifying State voluntary cleanup programs at the Federal level we would eliminate the threat of Federal EPA action on sites already deemed clean by State programs.

In 1993 the State of Indiana instituted its own voluntary remediation program. I believe it has been successful to date. Yet one of the hurdles the Indiana program still encounters is prospective developers' fear of EPA involvement. Mr. Regula's and my legislation would remove that hurdle by certifying State programs to make the final decision on the cleanup of low and medium priority sites.

Mr. Regula cited an example from his own congressional district. I will do likewise. We had a 20 acre site in Hammond, Indiana, with the likelihood of the creating 75 jobs and a payroll of a number of dollars. There was a $3 million lumber treatment plant prescribed. Ultimately the developers walked away because of the problems that we have talked about today.

I do think there are a lot of innovative efforts taking place at the local level as well as with the State. On June 2 I held a forum in East Chicago, Indiana. We have three major cities in our area joining together in a brownfield redevelopment task force in cooperation with the State of Indiana.

I would also submit for the record a letter from the head of the Indiana Department of Environmental Management endorsing the legislation before you today.

I will simply close by thanking the chairman and the members of the committee. I think action on this topic is long overdue. I congratulate you for your effort and seriousness in this endeavor.

[The prepared statement and attachment of Hon. Peter J. Visclosky follow:]

PREPARED STATEMENT OF HON. PETER J. VISCLOSKY, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF INDIANA

Mr. Chairman, thank you for the opportunity to testify today as your subcommittee focuses on state programs and their role in brownfield redevelopment. The redevelopment of old, industrial sites, known as brownfields, is vitally important to the area I represent in Northwest Indiana, as well as communities across the nation. I would like to congratulate you, Mr. Chairman, for the role you have played in bringing this issue to the forefront.

As you know, brownfields are the abandoned, industrial sites that litter our urban and suburban centers. Although many of these sites have been long abandoned by their original owners, it is difficult to find new interest in redeveloping them. Old industry generally means old contamination, which, even at relatively low levels, becomes a large headache for developers. The fear of lingering liability under the current Superfund law is enough to drive new industry out to previously untouched "greenfield" sites, leaving the dream of new jobs and economic development in our cities unfulfilled.

The revitalization and re-use of brownfield sites is extremely important to Northwest Indiana, where more than 50,000 good jobs have been lost since 1977. Abandoned industrial facilities are most often viewed as problems to be avoided rather than opportunities for investment. Environmental liabilities, vague cleanup guidelines, unrealistic cleanup standards, and a lack of financing are very serious obstacles to re-use.

Earlier this year, our colleague, Ralph Regula, and I introduced legislation designed to help cleanup and revitalize brownfield sites. The first bill, the Brownfield Cleanup and Redevelopment Act, H.R. 1621, would establish a process whereby states would be authorized to make final decisions on the cleanup of sites with low- or medium-priority contamination. The second bill, the Brownfield Cleanup and Redevelopment Revolving Loan Fund Pilot Project Act, H.R. 1620, would provide pilot project loans to eligible sites in severely economically distressed areas that, with a small infusion of capital, would have the potential to attract private investment and create jobs in the communities where the cleanups are taking place. I believe that this legislation is a critical piece of the puzzle to provide incentives to cleanup and bring new life to contaminated sites.

Both of these bills are designed to encourage privately-funded cleanup and redevelopment of contaminated industrial sites by removing some of the barriers that

have driven prospective developers to build on undeveloped "greenfield" sites. State efforts to encourage voluntary cleanup and redevelopment of low and medium-priority sites are currently hindered by federal requirements for environmental permits to conduct the cleanups and by the lack of federal certification for these efforts. Even when these sites are not subject to federal corrective action, the fear of liability for past contamination often inhibits their cleanup and redevelopment. By giving states' the power to create a distinct beginning and end to the voluntary cleanup process, we remove a crucial roadblock to redevelopment.

One of the most effective ways to promote the cleanup of our nation's hundreds of thousands of mildly-contaminated sites is through state voluntary cleanup programs. To date, almost 20 states have implemented, or are in the process of implementing, voluntary cleanup programs. By certifying state voluntary cleanup programs at the federal level, we would eliminate the threat of federal EPA action on sites already deemed clean by state programs.

In 1993, Indiana instituted its Voluntary Remediation program. Since that time, several industrial sites have been cleaned up to a standard that has allowed the property to re-enter the market and be used for both commercial and industrial uses. Yet, one of the hurdles the Indiana program still encounters is prospective developers' fear of EPA involvement. Our legislation would remove that hurdle by certifying state programs to make the final decision on the cleanup of low- and medium-priority sites. Mr. Chairman, I would like to submit for the record a letter from the Indiana Department of Environmental Management Commissioner, Kathy Prosser, endorsing this legislation.

Time and time again, the compelling need to remove the uncertainty from the process of redeveloping brownfield sites has been demonstrated. For example, plans to build a $3 million lumber treatment plant, which would have provided 75 jobs in Hammond, Indiana, were recently abandoned after the discovery of low levels of contamination at the proposed site. The daunting prospect of entering into a project with uncertain consequences resulted in a loss for the City of Hammond of not only one prospective developer, but the potential of any future development on this 20-acre site. The good news is that this site, at the Artim Industrial Park in Hammond, is currently involved in the Indiana Voluntary Remediation program.

State and local governments have become real leaders on the issue of brownfield development. On June 2, I held a forum in East Chicago, Indiana, which brought together, federal, state and local leaders, community activists, business interests, and lending institutions to talk about ways in which we could further the redevelopment of brownfield sites. At the local level, a tri-city task force is actively developing strategies to facilitate brownfield redevelopment. It was truly inspiring to see the innovative ways in which state and local leaders, along with the support of EPA Region V, have begun to solve this problem. Forming partnerships between the different levels of government has proven to be a successful approach to furthering economic development in my Congressional District. This cooperation should be the model for a national solution.

Mr. Chairman, members of the subcommittee, I urge you to support the good work our states are already doing in bringing brownfields back to productive use. The legislation introduced by Mr. Regula and myself would encourage and expedite the state voluntary cleanup process, and it merits serious consideration in the context of Superfund reform. Thank you.

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT,
June 14, 1995.

HON. PETER J. VISCLOSKY
2464 Rayburn House Office Building
Washington, DC

DEAR CONGRESSMAN VISCLOSKY: Indiana's General Assembly passed legislation creating the Voluntary Remediation program in 1992. That program became operational in July of 1993. Since that time, a great number of both small and large industrial sites have been remediated to a standard that has allowed the property to re-enter the market and be used for both commercial and industrial uses.

Indiana's program allows for a potential applicant to use their own contractor to both develop a cleanup plan and to actually cleanup the property—which speeds up the cleanup process. Our agency conducts both public hearings and collects public comment on the cleanup plans and standards. The plan is then modified based on public input. Once the cleanup is conducted and completed to the approved plans and specifications, the State of Indiana will issue a covenant not to sue to the owner of that property.

One of the major hurdles Indiana and all states that have cleanup programs must overcome in persuading property owners, businesses and industries to enter into the voluntary remediation program has been the lack of Federal EPA recognition of these programs and co-signature on the covenant not to sue. On that issue, Congressman Visclosky, we both applaud your efforts and offer our support for H.R. 1621 which will give that recognition to the State voluntary cleanup programs.

While there are a variety of other issues that are addressed in this legislation that are needed and will help the States to continue their efforts on these innovative programs, the single biggest issue is that of Federal recognition of these State programs.

Again, thank you for your efforts on behalf of all the States who have taken a leadership role on these major environmental issues.

Sincerely,

KATHY PROSSER, *Commissioner.*

Mr. OXLEY. We thank you and Ralph for being active participants in this brownfields issue. Our States have similar goals. We are glad to see that we are working together on this. Again, Peter, we thank you for your testimony.

Mr. VISCLOSKY. Thank you, Mr. Chairman.

Mr. OXLEY. We would like to call the next panel. Mr. Carl Grabinski, associate general counsel for Joslyn Corporation; Mr. Don Robbins, director of environmental services for western operations, ASARCO Inc.; Mr. J. Winston Porter, president, Waste Policy Center, Sterling, Virginia; Mr. Kent Jeffreys, senior fellow from the National Center for Policy Analysis.

We welcome our distinguished first panel. We have a vote on the floor. We will begin with the testimony and go as long as we can and then take a brief recess.

Mr. Jeffreys, we will begin with you.

STATEMENTS OF KENT JEFFREYS, SENIOR FELLOW, NATIONAL CENTER FOR POLICY ANALYSIS; J. WINSTON PORTER, PRESIDENT, WASTE POLICY CENTER; CARL S. GRABINSKI, ASSOCIATE GENERAL COUNSEL, JOSLYN MANUFACTURING CO.; DONALD A. ROBBINS, DIRECTOR, ENVIRONMENTAL SERVICES, WESTERN OPERATIONS, ASARCO INC., ACCOMPANIED BY JILL SIGAL, COUNSEL; AND HON. JAMES M. INHOFE, A U.S. SENATOR FROM THE STATE OF OKLAHOMA

Mr. JEFFREYS. Thank you, Mr. Chairman. My name is Kent Jeffreys and I'm a senior fellow with the National Center for Policy Analysis, which is headquartered in Dallas, Texas. I'm based in the NCPA's Washington office. NCPA is a nonprofit, nonpartisan public policy organization.

As almost any observer will tell you and certainly the congressional testimony we heard just a moment ago certainly reinforces the fact that Superfund has been an enormous disappointment. Many analysts, myself included, would go so far as to declare that the Superfund program from both an economic and an environmental perspective is a failure. Superfund is in need of a major overhaul. This Congress is to be commended for taking such a serious look at it.

The focus of this hearing is the role of the States under Superfund, including the possibility of transferring Superfund cleanup responsibilities directly to the States. I strongly endorse

that option, and I will attempt to sketch some of the reasons why I think it is both appropriate and possible to do so.

First, it should be recognized that almost all Superfund sites are located within the boundaries of a single State. The primary sources of environmental concern at most sites are soil and groundwater contamination, and these problems are again almost exclusively intrastate in scope.

In many cases the sources of contamination are exclusively local or at least intrastate in origin. Because Superfund sites consist of local environmental problems, it is appropriate to expect the States to accept responsibility for cleanup.

After 15 years and well over $20 billion in Federal and private expenditures, there is sufficient expertise and experience outside the Federal Government to manage Superfund sites from now on. Indeed, many States are willing to accept control and responsibility for Superfund site remediation, but most State officials want the Federal Government to continue to provide financial support and subsidy. This creates an apparent conflict.

Congress is simultaneously committed to balancing the budget, avoiding unfunded mandates on the States, improving tax fairness and maintaining a healthy human environment. Can that all be done at once? I say yes, it certainly can, but it will require complete restructuring of the Superfund cleanup process.

Basically, I propose that Superfund be converted into a true revolving State loan fund perhaps modeled after the Clean Water Act's Sewage Wastewater Treatment Facility program, which was converted back in 1987. Currently Superfund replenishes its Federal trust fund through collection of various taxes and payments from responsible parties.

With a true revolving loan fund the money would be borrowed by the States or their designated State entities and repaid over time through any mechanism that the State selected. This could include collections from responsible parties, property taxes, State bond sales, or general revenues. Any State that chose to borrow from a Superfund State revolving fund would have a strong incentive to carefully oversee private sector contractors.

In this regard, States should also be granted much greater authority to establish the cleanup standards at sites and to choose either permanent treatment or containment strategies. The Federal EPA role could be reduced essentially to giving expert assistance if requested by the State.

Transferring management of Superfund from the Federal Government to the States by itself has been estimated to result in savings of up to 20 percent. The National Environmental Policy Institute has estimated that total remediation costs under Superfund could be reduced by at least 60 percent if strictly science-based risk assessments were conducted.

It is widely recognized that current Superfund practices do not so much analyze risks at sites as assume them, generally under a worst-case scenario. This fact increases costs twice. First, through higher remediation costs, and second, through the inevitable litigation that results from the attempt to avoid such huge liability costs. I raise these points simply to point out to this subcommittee

that a revolving loan fund process need not require huge additional funds for Superfund, because the costs can be driven down.

The Environmental Financial Advisory Board, which is an independent advisory committee to the administrator of the EPA, declared back in May 1992 that concerning the clean water revolving loan fund that overall the State revolving fund program has proven a successful model for financing wastewater treatment. The major caveat they found concerned small and economically disadvantaged communities, and this advisory board presented a number of recommendations to remedy those shortcomings and could provide this Congress with similar recommendations for a Superfund State revolving fund.

While the revolving loan fund concept is not perfect, no other scheme can make that claim either. All 50 States have now established revolving loan fund policies and are developing expertise in administering them.

Furthermore, it should be noted that in last year's Safe Drinking Water Act reauthorization which was put forward by the Senate Environment and Public Works Committee they had incorporated a revolving loan fund process for the Safe Drinking Water Act. That, of course, did not go all the way through.

In addition, recently the EPA has begun drafting a proposal to create a combined revolving loan fund for both safe drinking and wastewater treatment.

My point is that revolving loan funds are acceptable in principle to the Congress, the States and the administration.

Finally, the Congress need not bust the budget to create this revolving loan fund, because EPA itself has estimated that approximately $2.7 billion remains in the pipeline. It is already connected through Superfund revenue mechanisms but is yet to be committed for expenditure. This amount could be turned over as the initial capitalization under a revolving loan fund for Superfund.

I think that if Congress turns in this direction the process could proceed quite smoothly and efficiently.

I thank you for this opportunity to testify, and I will answer any questions you have.

[The prepared statement of Kent Jeffreys follows:]

PREPARED STATEMENT OF KENT JEFFREYS, SENIOR FELLOW, NATIONAL CENTER FOR POLICY ANALYSIS

My name is Kent Jeffreys and I am a Senior Fellow with the National Center for Policy Analysis which is headquartered in Dallas, Texas. The NCPA is a nonprofit, nonpartisan public policy organization. I am based in the NCPA's Washington, DC office. For the past eight years I have worked in Washington on a range of environmental and energy policy issues, including the Comprehensive Environmental Response, Compensation and Liability Act (Superfund).

Superfund, as almost any observer will tell you, has been an enormous disappointment. Many analysts, myself included, go so far as to declare that the Superfund program, from both an economic and an environmental perspective, is a failure. This Congress is committed to reforming the Superfund program and for that it is to be commended. However, simple tinkering will not be sufficient. Superfund is in need of a major overhaul.

The focus of this hearing is the role of states under Superfund, including the possibility of transferring Superfund cleanup responsibilities to the states. I strongly endorse that option and will attempt to sketch out the reasons why it is appropriate and a possible mechanism that will make the process politically possible.

Superfund Sites Are Local Problems

First, it should be recognized that almost all Superfund sites are located within the boundaries of a single state. Furthermore, the primary sources of environmental concern at most sites are soil and groundwater contamination. Once again, these problems are almost exclusively intrastate in scope. Indeed, in many cases the sources of contamination are exclusively local or intrastate in origin. Yet the Superfund program is a creature of the federal government, and is largely financed and managed by federal design. Whatever the reasons or justifications for this situation when Superfund was created and later reauthorized, they need not be binding on this Congress. Indeed, this Congress can rightly claim a mandate to reconsider the Superfund program in light of its high costs and low benefits. The American voters are fed up with failed programs and federal excuses.

Because Superfund sites consist of local environmental problems it is appropriate to expect the states to accept responsibility for these matters. Even under the most generous interpretation of central government authority and responsibility under federalism, it is at least as valid to place responsibility for local hazardous waste management on the individual state governments as it is to impose the responsibility on the federal government. The States historically have responsibility for local regulatory concerns and it is their failure to properly regulate and manage these sites which eventually gave rise to a federal response in the form of Superfund. After 15 years and well over $20 billion in public and private expenditures, there is sufficient expertise and experience outside the federal government to manage Superfund sites from now on.

Today, many states are willing to accept control and responsibility for Superfund site remediations, but most state officials want the federal government to continue to provide financial support and subsidy. This creates an apparent conflict. Congress is simultaneously committed to balancing the budget, avoiding unfunded mandates on the states, improving tax fairness and maintaining a healthy human environment. Can it be done?

My answer is yes, but it will require a complete restructuring of the current approach to Superfund cleanup. Over the coming weeks and months Congress will be considering its options for "fixing" the Superfund mess. This will undoubtedly entail reform of Superfund's liability provisions, reexamination of Superfund's risk assessment and remedy selection procedures, as well as numerous other concerns with the current program.

Today's hearing seeks input on the proper state role in the Superfund cleanup process. In my opinion, the states have the only proper and legitimate role in local hazardous waste site cleanup decisions. The remaining question is how to reform the current federal program into a state program.

Basically, I propose that Superfund be converted into a true revolving state loan fund, perhaps modeled after the Clean Water Act's sewage wastewater treatment facility program. Currently, Superfund replenishes its federal trust fund through collections of various taxes and responsible party payments. With a true revolving loan fund, money would be borrowed by states (or designated state entities) and repaid over time through any mechanism chosen by the individual states. This could include collections from responsible parties, property taxes, state bond sales, or general revenues. Regardless of the source of repayment, the state revolving loan fund, or SRF, should be self-replenishing over time.

Any state that chose to borrow from the Superfund SRF would have a strong incentive to carefully oversee private sector contractors. In addition, because the revenues to repay the loans must be raised by the states themselves, a strong incentive will exist to avoid "gold-plating" the remedies selected at each site. States also should be granted greater authority to establish the cleanup standards at sites, and to choose either permanent treatment or containment strategies. The federal EPA role could be reduced to providing technical expertise, if requested by a state.

The Clean Water Act's SRF

The first major environmental state revolving loan fund (or SRF) was created to replace the Clean Water Act's sewage wastewater treatment facility grant program.

In fact, the second-largest federal construction program in history (behind only the Interstate Highway System) remains the Wastewater Treatment Construction Grant program. For the years 1973 through 1976, for example, $18 billion was committed to the construction grant program. Total expenditures have since exceeded $60 billion.

In 1987, the State Water Pollution Control Revolving Fund Program was established by Title VI of the newly amended Clean Water Act. The State Revolving Funds were established through $8.4 billion in authorized federal contributions along with a state "match" of 20 percent.

An estimated $84 billion worth of wastewater treatment facility construction expenditures remained unfunded when the federal government switched to the revolving loan fund concept. Considering that over $60 billion had already been spent by federal taxpayers for construction grants, it is clear that the overall scale of the wastewater treatment program was similar to the highest estimates of the total eventual Superfund hazardous waste site cleanup costs. Of course, these high Superfund cost estimates are based upon the assumption that the federal government will continue to run the program and set all cleanup standards. Transferring management of Superfund from the federal government to the states, by itself, is likely to reduce costs by about of 20 percent. The National Environmental Policy Institute has estimated that total remediation costs under Superfund could be reduced by at least 60 percent if strictly science-based risk assessments were conducted. It is widely recognized that current Superfund practices do not so much analyze site risks as assume them—generally under a worst-case scenario. This fact increases costs twice; first through higher remediation costs and second through the inevitable litigation to avoid such huge liability costs. These points are raised here merely to remind the subcommittee that a revolving loan fund under a new Superfund need not be an unmanageably large sum.

A few other points should be borne in mind as one compares Superfund with the wastewater treatment program's SRF. First, the impacts of wastewater often cross state boundaries, so a strong justification for federal involvement exists. Because wastewater is primarily a surface water problem, humans are more likely to be exposed to it than to a Superfund site's contamination. Unlike almost all Superfund sites, surface wastewater often carries infectious agents. Thus, wastewater presents a far more significant threat to human health. Yet this fact did not prevent Congress from turning the program over to the states, with federal funding limited to a SRF. Over half of the states have determined that, as a result of the Clean Water Act's revolving fund process, local governments were developing more accurate user fees and charges to reflect actual costs of maintenance, operation, and replacement costs. In addition, local control generally leads to the selection of less costly alternatives. And finally, greater flexibility was injected into the system by allowing states to target the funds toward actual needs rather than toward federal programmatic goals.

The Environmental Financial Advisory Board (an independent advisory committee to the Administrator of the EPA) declared in its May 1992 Progress Report that "Overall, the SRF program has proven a successful model for financing wastewater treatment." The major caveat concerned small and economically disadvantaged communities. The Advisory Board presented a number of recommendations to remedy these shortcomings and could provide Congress with similar recommendations for a Superfund SRF.

While the revolving loan concept is not perfect, no other scheme can make that claim either. All 50 states now have established revolving loan fund policies and are developing expertise in administering them. A similar process involving Superfund sites is likely to proceed even more smoothly.

Furthermore, it should be noted that the Safe Drinking Water Act reauthorization plan developed by the Senate Environment and Public Works Committee last year incorporated a revolving fund approach. (S. 2019, Part G, Section 1471, et seq.) Unfortunately, the Safe Drinking Water Act was not reauthorized before the end of the last Congress, so this revolving fund remains a proposal rather than a fact. Recently, the EPA has begun drafting a proposal to create a combined revolving loan fund to encompass both wastewater treatment and safe drinking water projects. The eventual outcome of this process will not be known for some time but the point is clear: revolving loan funds are acceptable, in principle, to the Congress, the states, and the administration.

Political and ecological arguments can be presented to demonstrate that, if a revolving loan fund is appropriate for drinking water and wastewater treatment, it is even more appropriate for the soil and groundwater cleanup projects common at Superfund sites. The only serious obstacles involve the setting of standards or requirements for participation and the actual level of capitalization, or funding.

Budgetary Concerns

Congress need not "bust the budget" to create a permanent SRF under Superfund. It has been estimated by the EPA that at least $2.7 billion has been collected through Superfund revenue mechanisms but has not yet been committed for expenditure. This amount should be transferred over as the initial capitalization of the new Hazardous Waste Site Revolving Loan Fund. (Budget balancers beware: Congress cannot save anything by refusing to create an SRF since the money would otherwise eventually be captured by future Superfund spending.) Also, if Congress simulta-

neously grants the states control over cleanup standards, total cleanup costs are certain to fall in most states. Indeed, the reduction in cleanup costs could be greater than 60 percent when compared with current expenditures.

In any event, this initial capitalization is equivalent to approximately two years of current federal expenditures under Superfund. To satisfy those who demand a larger initial capitalization, Congress could agree to revisit the SRF program in a few years to ensure that sufficient funding exists and that the program is proceeding smoothly and effectively. As the states have developed expertise at leveraging current SRFs through private sector funding sources, the same is to be expected of a Superfund SRF.

When compared to the complexity and political contentiousness of modifying Superfund's existing liability provisions, risk and remediation requirements, creating a state revolving loan fund will be easy.

Mr. OXLEY. Thank you.

Before we recognize our next witness, let the Chair indicate that Mr. Upton has gone over to vote and will come back and will take the Chair, so we will continue the hearing and we won't recess during the testimony. Members may want to go over and vote and then come back.

At this time I recognize Mr. Winston Porter of Waste Policy Center. Welcome.

STATEMENT OF J. WINSTON PORTER

Mr. PORTER. Thank you, Mr. Chairman. I would like to enter my entire statement for the record if it's okay.

Mr. OXLEY. Without objection.

Mr. PORTER. Let me just say this. I don't want to spend too much time today on why we should give the program to the States. I think I'm pretty well on the record on that and I think that has been spoken to very eloquently already.

Fundamentally, let me just say these are local problems. Forty-five States already have programs and the States are already doing a better job. So I think it is self-evident that most of the work should go to the States.

What I want to do today instead, Mr. Chairman, is talk about the mechanics of transferring the program to the States, the residual EPA role, a few general fixes on Superfund I would like to see happen, and very briefly the special case of Federal facilities, because I would like to see that handled a little differently than the private sites.

First of all, the mechanics of transfer. It seems to me any willing and able State that wants a Superfund program should be allowed to take it. I would be in favor of sort of a self-certification process where the Governor simply states that they have the appropriate statutory authority in the State to fund and staff a program, they have cleanup criteria, they have a public involvement process and have the necessary enforcement tools. Many States have that, and I would like to see them be able to certify to that effect.

In the appendix of our written remarks I have listed six States and described them briefly—California, Minnesota, New Jersey, New York, Ohio, and Texas—to give kind of a feeling for what the States are doing already. I think if you look at those one-pagers, what you will see is these are pretty sophisticated programs with a lot of results.

The other thing I would say about the mechanics of transfer, Mr. Chairman, is I would not like to see the Congress or EPA

micromanage the States. I know there is a view in this committee and elsewhere about certain legal tools that you don't like.

I would urge you not to try to restrict those legal tools too much at the State level, because I think the States have discovered what works. Some of them have very, very strong, and one might even say onerous, enforcement authorities. That is one way, frankly, they get a lot of voluntary cleanups by having, as Bill Ruckelshaus would refer to, the gorilla in the closet.

Second, every State does it slightly differently as far as enforcement. So my strong view would be not to try to dive in and preempt a lot of State authority.

Actually, the way I see the process working is not so much authorizing the States as withdrawing the Federal program from those States that want to run it themselves. As I say, they are up and running.

Those six States I mentioned, by the way, have 400 National Priority List sites. They have a staff of about 1,700 people already, and they have about $400 million a year in budget. So some six of the larger industrial States have a third of the Superfund sites; they have a staff about half of EPA's already; and they have a budget of about a fourth of what EPA's is already. So it isn't like these are small programs.

As far as funding, which would be the next big issue, criteria for getting some of the Superfund moneys out to the States, I would recommend the following:

First off, you want something that is fairly straightforward, that doesn't take years to do. You want something which doesn't leave de facto control with EPA, with the Federal Government. You want something which will provide incentives to the State to take the program. You don't want States not wanting to take the program. Finally, you don't want to encourage inefficiencies in any way.

My preferred posture would probably be to just have some type of block grants based on some simple formula such as population with perhaps some minimums. Population is a fairly good surrogate for industrial activity, which is a fairly good surrogate for a number of Superfund sites. And I would do it by State, not by sites. The last thing you want to do is have a very complicated system where EPA is going through 1,200 sites trying to figure out who gets what. Let me turn now briefly to the residual EPA role. Some States won't want the program, at least for the time being. EPA will have to run the program in the non-willing States. EPA should probably consider doing a certain amount of emergency removals. That part of the program has worked well. EPA has done a good job on these emergency type removals. Finally, perhaps some selective R&D and technical assistance.

With respect to what I call general fixes to Superfund, I think the program should be fixed in some ways even though most of it will probably flow to the States I would like to see the preference for treatment taken out of the selection of remedy. I think you want safe remedies. You don't want a lot of preconditions on how you do it. I would probably take out the ARAR or legally applicable and appropriate relevant standards. They haven't worked well and have been very bureaucratic and nightmarish.

I would probably change the word "permanent" remedy to "safe" remedy. I think the word "permanent" has been very misunderstood. I would also not have any site on the Federal National Priority List without the State's approval. I see no reason for the State and EPA to fight over sites.

Let me turn finally, Mr. Chairman, to Federal facilities briefly, because there is a fairly different atmosphere there. I would not give the States sole authority over Federal facilities, Department of Energy, Department of Defense primarily.

These Federal facilities are funded through the Federal appropriation process. The States don't put their own money into it. And I think you have real breakdown in discipline if someone is picking remedies who doesn't have anything at stake financially. I noticed when I was running Superfund the States felt very different about Federal facilities as far as money than they did where they contributed money.

I would make the Federal facility the key decisionmaker. We are wasting a lot of time at Federal facilities by having too many cooks in the kitchen. Under all the appropriate laws and regulations, I would have them make their own decisions.

The current program has too much process and needs to be tightened up. A good model, I think, is ER 2000, or Environmental Restoration 2000 program, which we have helped put together at the Rocky Flats Plant in Colorado where we took 20 years off the schedule and saved several billion dollars.

Let me close, Mr. Chairman, by saying that a lot of these ideas have come from work I'm doing with the National Environmental Policy Institute which in fact is funding a brownfields meeting on June 29 and will have more to say about those issues.

The Superfund program has been a troubled and complicated program. Fundamentally the concept is wrong. It took me a little time to figure that out, but after 15 years, I think we can now say the concept is wrong of the Federal Government dealing with what are very, very local problems. The good news is the States have shown they can clean up sites in about one-third the time at one-third the cost of EPA.

Thank you, Mr. Chairman.

[The prepared statement and attachment of J. Winston Porter follow:]

PREPARED STATEMENT OF DR. J. WINSTON PORTER, PRESIDENT, WASTE POLICY CENTER

Mr. Chairman, my name is J. Winston Porter, and I am president of the Waste Policy Center in Sterling, Virginia. The WPC is a private research and consulting organization which deals with policy issues in the areas of solid and hazardous wastes management. From 1985 to 1989, I was the EPA Assistant Administrator with responsibility for Superfund and other waste programs.

It is a pleasure to be here today to provide testimony on the reauthorization of the Comprehensive Environmental Response, Compensation, and Liability Act ("CERCLA" or Superfund), particularly as it relates to the role of the states in this program.

This subject is very much on my mind as I am currently directing a major investigation of the "how clean is clean" issue for the National Environmental Policy Institute, chaired by former Congressman Don Ritter. In my testimony today, I will also draw upon work I am conducting for the Reason Foundation which relates directly to state waste site cleanup programs.

Let me start by stating that Superfund cannot be fixed by numerous incremental measures such as those discussed by Congress in 1994. It's time for a major change in direction for the program.

While a strong federal Superfund program was probably needed in the early 1980s to deal with the new field of hazardous waste site remediation, it is increasingly flawed in its basic premise that such sites should be the province of the federal government, as opposed to state and local officials.

I will first outline why most of the Superfund program should be turned over to willing and able states, followed by recommendations for legislative actions to effect this change. I will also discuss the residual EPA-run Superfund program. Finally, the special case of federal facility cleanups will be briefly outlined in relation to the states' role.

Why should the states do most superfund-type work?

We live in a much different world than that of 1980 when Love Canal and other "horror stories" were front page news. There was very little federal or state experience with such sites in those days.

In addition to the extensive technical and other knowledge gained in the past 15 years, the most striking change is that some 40 states now have their own waste site cleanup programs. A July 1994 study by the Association of State and Territorial Solid Waste Management Officials found that some 11,000 sites are active in some phase of their state's remedial process. In addition to superfund-type cleanups, state programs also deal with cradle-to-grave management of hazardous wastes, leaking underground storage tanks, and other related waste programs.

Most importantly, many states have shown that they can remediate sites in much less time and at lower cost than the federal program. In Minnesota, for example, cleanups routinely take two to three years and cost less than $5 million. New York, California, and Wisconsin have each remediated more than 200 sites—each comparable to the entire federal total of sites completed.

Although EPA has worked mightily to improve Superfund, the evidence is overwhelming that the federal site cleanups take too long and cost too much. Specifically, federal Superfund site remediations average about 10 years in duration and $30 million in cost. EPA has completed work at approximately 250 sites in 15 years, with about 1000 sites to complete on the current National Priority List.

The basic reason for the states' strong advantage is primarily that hazardous waste sites are local problems. Unlike air pollution or surface water contamination, which may affect entire regions of the country, waste sites usually impact only the immediate environs of the contaminated site. The states are much closer to these site problems, the people involved, the local environment and economy, and land use issues.

How should Superfund be turned over to the states?

There are, of course, a number of key issues in how superfund-type activities can become, increasingly, a state activity. These include funding, legal and enforcement authorities, site cleanup criteria, the role of potentially responsible parties, and, undoubtedly, other matters. My approach would be to amend Superfund in the following ways to deal with the major issues.

State Certification. The new law should state that a Governor may request that his or her state wishes to operate Superfund within its boundaries. In so doing, the Governor would certify that the state has the necessary statutory and regulatory authority to:

- Fund its cleanup activities, including necessary state staffing.
- Provide sufficient enforcement authority to deal with those who caused the site contamination, including compelling site remediation.
- Provide for the necessary criteria to specify levels of cleanup for waste sites.
- Allow meaningful community involvement in the site investigation and remedy selection processes.

As part of the state certification, the Governor should provide a short narrative as to why the state program is considered effective and give such basic information as the number of sites in the state program, the current cleanup time frames, and approximate cleanup costs per site.

The EPA would not approve or disapprove a state request, but simply facilitate the movement of the program to the state if the Governor's certification contains the above elements. The state and EPA would need to work out a procedure for EPA and/or the state to complete any EPA-led work in progress in that state.

To illustrate the maturity and sophistication of many existing state cleanup programs, summaries of six such programs are provided in the Appendix. The programs outlined are those of California, Minnesota, New Jersey, New York, Ohio, and

Texas. Emphasis in these write-ups is on state funding/staffing, cleanup criteria, public participation, and enforcement tools.

These state summaries illustrate the variety of approaches the states are using. These different approaches provide an ongoing laboratory of ideas. It would be a serious mistake for EPA, or the Congress, to micromanage the states and thus inhibit their ability to innovate and to tailor their programs to local conditions. We have tried the national consistency route and found it sadly lacking due to its inevitable focus on process, not results.

Finally, while many in Congress and elsewhere have problems with such legal concepts as retroactive and joint and several liability, it would be a mistake to attempt federal preemption of these or other enforcement tools at the state level. Such preemption would likely result in many states refusing to accept the Superfund program.

The bottom line is that most states have learned what is required to achieve timely, cost-efficient site cleanups in their states, and they should be largely left alone to pursue what works best for them.

Funding Provisions. The most contentious issue in turnover of Superfund to willing and able states will almost certainly be the share of Superfund trust fund monies which the states should receive to assist with program implementation. The following comments and recommendations are offered on this subject:

- The current Superfund taxing authorities should probably be retained for the next few years until the new, largely state-run activities can be put in place.
- The amount of the trust fund allocated annually to certified states should be "by state" and not "by site." The states can set their own priorities within the amount of funds received.
- Some form of block grant-type approach should probably be adopted. This could be based on a straightforward proposition such as population (a rough indicator of industrial activity) or, perhaps, a percentage of the states' own waste site cleanup funding.

In thinking about how to allocate trust fund monies to certified states, the following key issues should be considered: (1) the concept should not be complex and, thus, take years to implement; (2) it should not leave de facto control with the EPA; (3) the approach should provide an incentive for the states to want to take the program; and (4) the concept should not encourage inefficiencies in the states (e.g., by providing "too much" money).

What should be EPA's ongoing Superfund role?

As more and more states voluntarily take over superfund-type activities in their states, several issues should be recognized:

(1) All states will not want, or be able, to operate Superfund in their state. Most sites are in the dozen or so larger, industrial states and smaller states may not want to operate a program for a handful of superfund-type sites.

(2) Several hundred sites are already well along in the federal process and, in some cases, the state and EPA may agree that it is more efficient for EPA to complete these sites. (Although it is probably wise to encourage as rapid a turnover as possible for the states willing and able to run their own program.)

(3) The EPA's emergency removal program has worked well and this program should probably be continued in some fashion.

Thus, EPA's role should shrink rapidly over the next several years, but EPA would continue to manage cleanups where states do not want the program, finish projects in the federal pipeline, provide an emergency removal program, and continue certain research and technical development activities.

In order to improve the residual EPA program, as well as to provide a better model for state activities, I recommend that the Superfund statute be amended in the following additional ways:

- Remove the preference for treatment in remedy selection. The objective should be safe and protective remedies with the use of treatment, or other methods. The current preference for treatment simply adds one additional, time-consuming hoop to jump through.
- Remove the ARAR provision from the statute. Again, the development of "legally applicable and relevant and appropriate" standards has not worked well and has simply raised an additional burden for the states and EPA to deal with. (An option would be to leave in the "legally applicable" part, but I assume if a statute or regulation is legally applicable that does not need to be restated.)
- Change the requirement for "permanent" remedies to "safe" ones.
- Explicitly state that expected land use should be a consideration in remedy selection. What about federal facilities?

It is not recommended that the states have sole regulatory responsibility for federal (e.g., DOE, DoD, etc.) facility remedial actions. The major reason is that federal facilities are funded through the Congressional appropriation process, and this process must balance the cleanup program with other federal priorities. In addition, the states do not participate in funding of federal facility cleanups, as they often do for private sites.

Finally, most of the major federal remedial activities are already "under contract" through an Interagency Agreement (IAG) to remediate the sites. These agreements involve the federal agency, the EPA, and the state.

However, there are some proposed changes in the Superfund statute which would greatly assist in remediating federal facilities under the "new Superfund." These include:

- Designation of the federal agency as the primary decisionmaker for both removal and remedial actions at their sites. The present committee (EPA, state, federal agency) approach has not worked well, with the result that federal cleanups are taking far too long and costing too much. The federal agency should, of course, be bound by the IAG and other applicable laws and regulations, but should be allowed to reassert control over their sites and move cleanups much more rapidly. It should be "OK to cleanup."
- Adoption of the other modifications mentioned earlier, including removal of preference for treatment and ARARs, replacement of "permanent" with "safe," and explicit consideration of land use as a factor.

Let me close by stating that adoption of the principles I have described need not require numerous, complex amendments to the present statute. That would simply reopen interminable discussions on such issues as joint and several liability, retroactive liability, and remedy selection. Rather, the amended Superfund statute should make it attractive for most states to operate their own cleanup programs under their own laws and regulations.

Mr. Chairman, Superfund has been a troubled, expensive, and complex program. It is time to try a fresh and less complicated approach. The states should be the major players in the new Superfund. I hope my observations and recommendations are helpful in this regard.

I will be pleased to respond to any questions you may have.

APPENDIX

SELECTED STATE PROGRAMS

In order to illustrate the variety and sophistication of state superfund-type programs, brief summaries are provided of six well-developed state programs.

These programs were selected to illustrate the variety of approaches which the states are taking to deal with such issues as funding, cleanup criteria, public participation, and enforcement. Most of the information contained in these summaries was derived from the EPA's December, 1993 report titled "An Analysis of State Superfund Programs, 50 State Study, 1993 Update."

CALIFORNIA

Statutory authority for California's superfund-type program comes from the Hazardous Substance Account Act. This Act, which includes the Hazardous Substance Cleanup Bond Act of 1984 and the Hazardous Substance Cleanup Financing Authority Act, establishes the site mitigation program and provides for a cleanup fund.

The Site Mitigation Program, located within the Department of Toxic Substances Control (DTSC), is *staffed* with approximately 290 people. DTSC's Office of Legal Counsel and Criminal Investigation provides 10 attorneys, augmented by five to ten attorneys from the Attorney General's office. In addition, DTSC works closely with the California Water Resources Quality Control Board and the Regional Water Quality Control Boards. Site Mitigation Program funding is provided through the Hazardous Waste Control Account, federal grants, hazardous waste disposal fees, cost recovery, reimbursements, and activity fees. The annual program budget is approximately $60 million.

California *cleanup criteria* include acceptable risks, future land use, and the National Contingency Plan's (NCP) nine remedy selection criteria. The state sets cancer risk levels at 10^{-4} to 10^{-6}, with 10^{-6} as a point of departure. Proposed remedies must be based on the effect of contamination on beneficial uses of resources, the effect of alternative remedial action measures on groundwater, site-specific characteristics, and cost effectiveness. The state has set maximum contaminant levels

(MCLs) for water contaminants and air toxics. Cleanup levels are also guided by risk standard assessment, background levels, and EPA guidelines.

DTSC is required to hold at least one *public* meeting before approving a remedial action plan and must consider related public comments. Parties affected by a removal or remedial action are eligible to participate in DTSC's decisionmaking process. A schedule of site activities must be prepared and made available to the public.

California's *enforcement* tools include strict and proportional liability standards and treble punitive damages. Civil and administrative penalties up to $25,000 per day for order or agreement violation may be charged to a responsible party (RP). Criminal penalties up to $25,000 per day and/or up to one year in prison may be levied. Cooperating RPs may sue non-cooperating RPs for three times their share of cleanup costs. Any award is split equally between cooperating RPs and DTSC.

MINNESOTA

The Minnesota Environmental Response and Liability Act (MERLA) provides statutory authority for the State Fund. MERLA also provides for strict, joint and several liability, injunctive relief, civil penalties, cost recovery, and citizen suits.

The Minnesota Pollution Control Agency (MPCA) Ground Water and Solid Waste Division manages the state's superfund-type program with three sections and about 110 *staff* members. The Attorney General's office provides full-time attorneys to support MPCA's activities. The state's cleanup fund provides 90 percent of required administrative and cleanup funds with the remaining 10 percent coming from federal grants. The total annual program budget is approximately $30 million.

Cleanup decisions are based on criteria similar to the NCP. The most restrictive criteria are applicable at each site. MPCA uses ARARs and seeks a permanent cleanup. A 10^{-5} cancer risk factor, or Hazardous Quotient <0.2 for individual noncarcinogen contaminants or <1.0 for multiple contaminants, is applied. Other criteria include health risk limits (HRLs) for drinking water contaminants, state groundwater cleanup levels, water quality criteria, MCLs, maximum contaminant level goals (MCLGs), and EPA guidelines.

The entire cleanup process is public, including notification of RPs and approval of state actions at a public meeting of the Pollution Control Agency Board. A public relations officer is assigned to each site. MPCA holds public meetings after completion of the remedial investigation/feasibility study (RI/FS) to explain the proposed plan.

Minnesota's *enforcement* program has strict, joint and several liability. Penalties up to $20,000 a day apply if a responsible party fails to take sufficient response action in accordance with MPCA requests. There is no provision for punitive damages.

In addition to the above "enforcement-based" program, Minnesota has developed two additional site remediation tools. The first is the Minnesota Voluntary Investigation and Cleanup (VIC) program. Under a 1988 law, any person may propose an investigation or cleanup of a piece of property that they own or intend to purchase or develop, regardless of whether it is a priority site under the state cleanup program. The MPCA will provide technical review and approval of these proposals on a first come-first serve basis. The cost of the services must be paid by the requesting parties.

The second is the Minnesota Landfill Cleanup program. Under this program, the state will take over the long-term care and future remediation of 106 closed municipal waste landfills that were permitted by the MPCA.

NEW JERSEY

The New Jersey superfund-type program has as its statutory authority the Spill Compensation and Control Act as well as other hazardous discharge laws. The Act established a fund for cleanups and provided authority for emergency response, removals, remedial actions, enforcement, cost recovery, victim compensation, and damages. In addition, New Jersey's Industrial Site Recovery Act requires transferors of industrial facilities to clean up contamination.

New Jersey's Site Remediation Program is a part of the Department of Environmental Protection and oversees cleanups of contaminated sites in the state. It has a *staff* of over 600 persons. In addition, the Attorney General's Office provides some 25-30 attorneys for legal support of the remediation program. Funding for the program comes from the Spill Compensation Fund, reimbursements from potentially responsible parties, federal grants, and the state's bond fund. Annual expenditures are over $100 million.

The state's *criteria* for site *cleanups* include water quality criteria, MCLs and MCLGs from the federal Safe Drinking Water Act, background levels, risk assessments, EPA guidelines, and New Jersey's soil cleanup criteria (SCC) guidelines. For

soil cleanups, the state may use the SCC or case-specific levels derived from risk assessments using EPA methodology. A cancer risk level of 10^{-6} is used. If SCC are determined to be below background levels, then the cleanup level is background.

The state has rules which provide for public participation. A Site Remediation Program Advisory Group is used to assist in program refinements and improvement. The Advisory Group includes industry, banking, realtors, consultants, environmentalists, and other stakeholders.

Enforcement against potentially responsible parties is through strict, joint and several liability. Civil penalties are authorized up to $50,000 per day per violation. Treble damages may be assessed through cost recovery actions.

NEW YORK

New York's superfund-type program derives its statutory authority from the Abandoned Sites Act of 1979, the State Superfund Act (1982), and the Environmental Quality Bond Act (EQBA) of 1986. The first Act mandates a statewide site inventory, provides order and cleanup authority, and authorizes provision of water supplies. The Superfund Act established the Hazardous Waste Remedial Fund which funds site cleanup and the state's match for the federal Superfund program. The EQBA authorized issuance of $1.2 billion in bonds to deal with inactive hazardous waste sites.

New York's program is administered by the Department of Environmental Conservation (DEC) with over 300 *staff* in two divisions. In addition, about 10 attorneys from the Attorney General's office and 80 Department of Health staffers support the program's activities. The state cleanup fund finances about 92 percent of staff and administration costs, with seven percent of the remainder funded by federal grants, and one percent funded by the state general fund. Total annual expenditures are approximately $130 million.

Cleanup criteria used in New York's program include water quality criteria, MCLs, MCLGs, background levels, risk standard assessment, and EPA guidelines. If a site cannot be cleaned up to predisposal condition, DEC specifies generic soil cleanup objectives which are intended to eliminate all significant threats. A cancer risk level of 10^{-6} is used.

The statutes effective in New York require the DEC to develop a *citizen participation* program which includes a site-specific citizen participation plan, establishment of a local document repository, and creation of a public contact list. This program begins operation at the start of remedial investigation and continues through all stages of the remediation process. Descriptions of proposed actions/documents are mailed to citizens on the list, comments are solicited, and public meetings are held before actions or decisions can be finalized.

New York's *enforcement* authority includes orders for information and site access, subpoena authority, administrative order authority, consent order, and injunctive action authority. Strict, joint and several liability applies to responsible parties. Civil penalties of $25,000 per violation and $25,000 per day for continuing violations apply. Criminal penalties of $25,000 per day and/or one year imprisonment may apply as well. Both civil and criminal penalties double for a second violation.

OHIO

Statutory authority for Ohio's superfund-type program is derived from the Solid and Hazardous Waste Disposal Law. This Law contains provisions for two cleanup funds, the Hazardous Waste Cleanup Fund and the Hazardous Waste Facility Management Fund. In addition, it contains enforcement authorities and citizen suit provisions.

The cleanup program is managed by the Division of Emergency and Remedial Response in the Ohio Environmental Protection Agency (OEPA) with a *staff* of approximately 210 employees. In addition, three attorneys are available to the program through the Attorney General's Office. Funding is provided from state cleanup funds, federal grants, and solid waste disposal fees. The program's annual budget is about $18 million.

As *cleanup criteria,* Ohio uses MCLs wherever appropriate. If not applicable, the state uses risk assessments, water quality criteria, background, and EPA guidelines. Cumulative carcinogenic risk must be reduced to 10^{-4} to 10^{-6}, with 10^{-6} as the point of departure. Ohio's program conducts ecological risk assessments and bases cleanup criteria on the best available treatment technology. The state's "how clean is clean" policy calls for cleanup to risk-based levels or background.

In the area of *public participation,* general rules in the Ohio Administrative Code apply. The policy is to be consistent with the NCP in requiring a public comment

period, responsiveness summary, public meetings, and establishment of an information reporting system.

Governing statutes do not address liability standards although OEPA has advocated strict, joint and several liability. *Enforcement* tools available include judicial search warrants for site access, administrative orders, injunctive actions, civil penalties, cost recovery, liens, criminal penalties in limited circumstances, and citizen suits. No punitive damages are available, but civil penalties up to $10,000 per day may apply.

TEXAS

Statutory authority for Texas' superfund-type program is derived from a number of sources. The Hazardous Substances Spill Prevention and Control Act established the Spill Response Fund. The Solid Waste Disposal Act established the Hazardous Waste Disposal Fee Fund, a priority list, and a treble damages provision. The Texas Water Code and Texas Administrative Code provide authority for voluntary cleanups. The Texas Health and Safety Code defines public participation requirements.

The program is managed by the Texas Natural Resource Conservation Commission's (TNRCC) Pollution Cleanup Division with a *staff* of over 100 employees. The TNRCC Legal Services Division provides an attorney to support the program's activities. Funding is from combined state and federal monies, with a total annual budget of about $40 million.

TNRCC has published, under Risk Reduction Standard 2, preliminary remediation goals for over 150 chemical constituents which serve as starting points to determine *cleanup levels.* Values are determined for each chemical by setting cumulative risk for ingestion, inhalation of volatiles, and inhalation of particulates at 10^{-6}. Soil values to protect groundwater are set at 100 times groundwater cleanup levels. Risk Reduction Standard 3 cleanup levels for air, surface and groundwater, and soil are determined through a site-specific process, use 10^{-6} as a goal, and require concentration to be consistent with risk between 10^{-4} and 10^{-6}. The state may also apply water quality criteria, MCLs, background levels, and EPA guidelines.

Texas Health and Safety Code requires *public* notice and comment on both site listing and remedy selection. As required by community interest, TNRCC meets informally with parties affected by cleanup activities.

Enforcement authority available to the state includes comprehensive order and injunctive authority, civil penalties of up to $25,000 per day, cost recovery, liens, de minimis settlement, mixed funding, and treble damages. The state applies strict, joint and several, and proportional liability standards. Proportional liability is applied when the preponderance of evidence allows divisibility of liability.

Mr. UPTON [presiding]. Thank you, Mr. Porter.

Mr. Grabinski.

STATEMENT OF CARL S. GRABINSKI

Mr. GRABINSKI. Good morning. I would ask that my full statement be made part of the record.

Mr. UPTON. Without objection.

Mr. GRABINSKI. I am an associate general counsel for Joslyn Corporation in Chicago. I'd like to tell you a little bit about Joslyn before I get into the specific environmental problem that I'm here for.

We were incorporated in 1902. We have approximately 2,000 employees in the States of California, Ohio, Illinois, and South Carolina. One of our former manufacturing processes was the preservation of wood products with creosote and pentachlorophenol. That manufacturing process is what gives rise to our Superfund problems and the purpose for my visit today.

Joslyn is a small company. We have about $220 million in annual sales. When compared to $40 million in after-tax charges to fund these remedial efforts, it's a significant sum. We have already spent $36 million on these efforts and a significant amount of that money was spent at the Lincoln Creosote site in Bossier City, Lou-

isiana. That is the site that has given rise to what Joslyn calls the dual master problem.

Between 1992 and 1993 Joslyn proceeded to clean the site up. We spent approximately $13 million to do this, removed 108,000 tons of material in a comprehensive and thorough cleanup. That is equivalent to 1 year of after-tax profits for our company, or in human terms, 2,000 people working for an entire year to fund this remedial effort.

It was a comprehensive and thorough remedy. It went through public comment. It was approved, overseen and verified by the Louisiana Department of Environmental Quality.

This cleanup concluded in the fall of 1993, and on January 18, 1994 the U.S. EPA proposed the site for inclusion on the National Priorities List. This is after the cleanup had already been completed.

The DEQ joined Joslyn in officially commenting on the proposed listing and objecting to it vigorously. In fact, I would like to read a quote from the DEQ in that regard.

"Joslyn has worked voluntarily with DEQ with the understanding that DEQ has authority over the cleanup. Should EPA overrule Louisiana DEQ with questionable data, then the authority and credibility of our department will be damaged greatly."

What has happened here is we voluntarily proceeded with a State agency only to have that cleanup be questioned by the Federal authorities. This is probably best characterized as a misuse of both EPA and taxpayer resources.

EPA did an investigation during the cleanup. They knew we were out there. They had the opportunity to comment, and they did nothing. They waited until the cleanup was completed before proposing it for the National Priorities List. That is why Joslyn as a member of Superfund 1995 supports delegation to State authorities of cleanup efforts. It's important that companies be responsible for answering to only one master. To revisit cleanup issues and potentially have to do them again is not fair and is not final.

In conclusion, to see the site today and, as a result of national priorities characterization, to attempt to call it one of the Nation's worst uncontrolled disposal sites that poses the greatest potential threat to human health and the environment is clearly a misnomer.

Thank you for your time. I will be available for questions.

[The prepared statement and attachment of Carl S. Grabinski follow:]

PREPARED STATEMENT OF CARL S. GRABINSKI, JOSLYN MANUFACTURING COMPANY

Joslyn Manufacturing Co. was incorporated in 1902 as a manufacturing entity to supply products to the electrical and telecommunications industries. With 99 percent of its manufacturing here in the United States, Joslyn has a U.S. work force of 2000 people at manufacturing facilities in California, Illinois, Ohio and South Carolina. I serve as Associate General Counsel to Joslyn and, as part of my job, am responsible for overseeing Joslyn's environmental compliance and remediation programs.

Over the past 93 years, Joslyn has engaged in a variety of manufacturing operations, including the preservation of wood products such as telephone poles and railroad ties. Beginning in 1926, Joslyn conducted these wood preserving activities at numerous locations in different parts of the country. Joslyn discontinued all of its wood preserving operations prior to the December 1980 passage of Superfund. Since that time, Joslyn has been required to litigate, investigate and remediate contami-

nation at seven former wood preserving locations. In all seven of these cases, Joslyn's liability has been based entirely on pre-1980 activities.

The CERCLA provisions regarding strict, joint and several retroactive liability have had a serious financial impact on Joslyn's business operations. In 1987, Joslyn took an after-tax charge against earnings of $18.5 million to fired responsibilities arising from retroactive CERCLA liability. In 1994, Joslyn took a second after-tax charge of $21.5 million to continue these efforts. This total amount of $40 million (after tax) is particularly significant when compared to our current after-tax shareholders' equity of approximately $80 million. Joslyn has already expended approximately $36 million on site investigation and remediation, litigation against other Potentially Responsible Parties (PRPs), and litigation against Joslyn's insurers.

In Joslyn's view, our company's experiences under CERCLA illustrate a misuse of U.S. Environmental Protection Agency (EPA) resources. At the Lincoln Creosote Site in Bossier City, Louisiana, a wood treatment site for which Joslyn is a PRP, the EPA has spent significant time and money second-guessing a state-approved cleanup. This is the site that I would like to focus on during my testimony today, because it provides what I believe is the perfect example of the EPA second-guessing state cleanup decisions—what I refer to as the "dual master" problem.

The Lincoln Creosote Site, Bossier City, Louisiana

In 1935, the Lincoln Creosote Company began operating a wood treatment facility in Bossier City, Louisiana. Joslyn purchased the facility from the Lincoln Creosote Company in 1950 and continued operating the Facility until 1969, when Koppers Co. purchased the ongoing operation. One year later, Koppers Co., after dismantling the wood treatment equipment, sold the property.

Joslyn had no further involvement with the site until 1986, when the Louisiana Department of Environmental Quality (DEQ) issued a Notice of Potential Liability to all PRPs. The following year, the DEQ ordered 12 of the PRPs to perform a remedial investigation and cleanup of the Facility. To date, Joslyn has been the only PRP to perform or contribute to the performance of this work.

In 1988 and 1989, Joslyn developed and, with DEQ approval and oversight, implemented a Remedial Investigation Work Plan designed to characterize surface and subsurface conditions at the site. The results identified several areas of contaminated subsurface soil. During 1990, Joslyn performed additional remedial investigation activities under the direction of the DEQ to delineate potential areas to be addressed during the subsequent removal action.

In November, 1991, Joslyn submitted a Removal Action Work Plan to the DEQ. In February, 1992, Joslyn received DEQ approval of the Removal Action Work Plan. Beginning in February, 1992, immediately after the completion of a public comment period in which EPA did not participate, Joslyn performed a comprehensive removal action at the site. This removal action included the following elements: excavation, transportation and disposal of over 108,000 tons of soil; pumping, treatment and discharging of over 4,000,000 gallons of accumulated stormwater; placement of a 10 to 12-foot thick low-permeability clay cap over the excavated areas; revegetation and grading; and performance of extensive air monitoring for the duration of removal activities.

Throughout the removal action, all of the site activities were monitored and supervised by representatives of the DEQ. The cleanup was completed after removal of over 108,000 tons of contaminated soil, at a cost of approximately $13 million—equivalent to one year of after-tax profits for Joslyn. Translated into human terms, this means that 2000 Joslyn employees worked for an entire year to finance the soil removal at the Lincoln Creosote site.

The Lincoln Creosote cleanup concluded in the fail of 1993, to the satisfaction of the DEQ. During the cleanup, at the request of local residents, EPA launched its own investigation of the site. On January 18, 1994, EPA proposed adding the site to the National Priorities List, or "NPL," for cleanup under the federal Superfund program. Joslyn vigorously objected to this proposed listing, and has filed extensive comments in this regard.

In particular, the proposed listing is based on samples in an area that the DEQ previously investigated. The DEQ had concluded that this area did not warrant further cleanup. In addition, some of the sampling techniques used by EPAs contractor in the field were unorthodox, at best. Rather than sampling a column of soil, as would be required under EPAs own protocol, EPA personnel at the site directed the contractor to pick out and send to the lab only those soil particles that looked like creosote. This, of course, resulted in EPA measuring higher levels of hydrocarbons, and calculating a higher risk ranking for the site. We at Joslyn refer to this incident as "Tweezergate."

Comments on the proposed listing were also filed by the DEQ. A copy of the DEQ's comments is attached to my testimony. I would like to read a few highlights:

"For the past four years, Joslyn Corporation has been cooperating with the DEQ on the voluntary clean up of the site. Joslyn has conducted the clean up in a professional manner and has cooperated with our Department throughout the process."

"In several separate sampling efforts, DEQ... did not find significant contamination and was prepared to declare the site activity completed. Upon the request of local residents, EPA Region 6 embarked upon a separate off site investigation utilizing an EPA contractor. Soil samples were collected by this contractor utilizing questionable collection protocols, resulting in different analytical results than ours. In spite of this series of events, the Lincoln Creosote site has been proposed to be added to the [NPL]."

"Joslyn has worked voluntarily with DEQ with the understanding that DEQ has authority over the clean up. Should EPA overrule DEQ with questionable data, then the authority and credibility of our Department will be damaged greatly."

We have met with EPA headquarters and regional personnel repeatedly to try to resolve the "dual master" issue. Before the site was listed, representatives of Joslyn and the DEQ met with EPA listing officials here in Washington. The DEQ protested that other PRPs would be reluctant to proceed with environmental remediation under state authority if such remedies could be disregarded or overridden by EPA. We pointed out that the message sent by listing the Lincoln Creosote Site on the NPL would not be lost on other state regulatory authorities.

Although the proposed listing is not yet finalized, the EPA has made clear its position that Joslyn's completion of a state-approved cleanup will have no bearing on the EPAs final listing decision. To intervene after a state approved remedy had been completed is clearly a misplaced use of both EPA and taxpayer resources. Since beginning its site investigation, EPA has spent more than $800,000 on contractors, Agency personnel and overhead. Based on our discussions with EPA, it is clear that EPA intends to seek cost recovery for this, in our opinion, needless expense.

Joslyn is a member of Superfund Reform '95 and supports its proposal to move Superfund to the states. We believe that qualified states should be given the opportunity to receive delegation of Superfund authority and funding for NPL sites so that these sites can be cleaned up under the direction of one master, not two. We support the elimination of retroactive liability prior to 1987, and believe that financial incentives should be offered to the states in exchange for the states adopting similar liability reform measures at non-NPL state sites. These changes would allow EPA and the states to focus their resources on cleanups, rather than litigation.

At the Lincoln Creosote site, Joslyn was the only PRP to step forward. Our company committed an entire years' worth of profits to a state-approved cleanup, only to have EPA second-guess the state. I understand that the Administrator of EPA is now talking about fixing the EPA's Superfund program by increasing state involvement. I want you to know that no one at EPA is suggesting, or has ever suggested, that jurisdiction over the Lincoln Creosote site be given back to the DEQ. Increasing state involvement is not enough. State authority has to be absolute. If you enter into an agreement with the state to perform a cleanup and EPA chooses not to play a role, EPA cannot come in later and override the state.

In the absence of Superfund reform that puts the states in charge, Joslyn will be reluctant to work again with a state environmental agency. This is a real shame, because the states, in general, seem to do a better job of addressing real public health issues and prioritizing their cleanup goals. I hope that this Subcommittee will take the lead in developing a Superfund program that eliminates the unfair system of retroactive liability and moves both control and funding into the hands of the state environmental agencies.

STATE OF LOUISIANA,
DEPARTMENT OF ENVIRONMENTAL QUALITY,
March 17, 1994.

Docket Coordinator, Headquarters
U.S. EPA
CERCLA Docket Office (OS-245)
Waterside Mall
401 M Street, S.W.
Washington, D.C.

Re: Lincoln Creosote Site, Bossier City, Louisiana

Dear Sir: I am writing to you concerning the recent (January 18, 1994) proposal to list the Lincoln Creosote Site on the National Priorities List ("NPL"). I would like to make you aware of several facts that are of great interest to the State of Louisiana and the Department of Environmental Quality ("DEQ").

For the past four years, Joslyn Corporation ("Joslyn") has been cooperating with the DEQ on the voluntary clean up of the site. Joslyn has conducted the clean up in a professional manner and has cooperated with our Department throughout the process. Joslyn has expended over $14 million on the on-site clean up. Again, this has been a voluntary activity on the part of Joslyn.

In several separate sampling efforts, DEQ previously investigated the off site locations that might have been contaminated by the Lincoln Creosote site activities. DEQ did not find significant contamination and was prepared to declare the site activity completed. Upon the request of local residents, EPA Region 6 embarked upon a separate off site investigation utilizing an EPA contractor. Soil samples were collected by this contractor utilizing questionable collection protocols, resulting in different analytical results than ours. In spite of this series of events, the Lincoln Creosote site has been proposed to be added to the NPL.

The Louisiana DEQ is primarily concerned with protecting the population in Louisiana from environmental hazards. This is not an issue of dispute or comment. Protecting human health and the environment requires the collection, analysis and evaluation of potentially contaminated samples. We do know that soil contamination is never evenly distributed and that pockets of contamination can be missed in any sampling program. If this is the case and residents are subject to exposure to this material, we are in total support of finding it. In the case of Joslyn, it is not believed that the process resulted in reliable data being generated. EPA has agreed to resample the site neighborhood. Joslyn and DEQ would also like to be part of that re-analysis. The problem exists, however, that the 60 day public comment period is passing us by. It will not be possible for these new samples to be collected and analyzed before the comment period has expired. This could well result in the site being added to the NPL. If the site is improperly or incorrectly placed on the NPL, EPA, DEQ and the people of Louisiana will have been misserved.

Additionally, Joslyn has worked voluntarily with DEQ with the understanding that DEQ has authority over the clean up. Should EPA overrule DEQ with questionable data, then the authority and credibility of our Department will be damaged greatly.

What I would like to propose is that the listing process be stopped, pending the results of a complete re-sampling of the off site areas. Should these samples warrant listing, you will have our total support. Should the samples not support listing, I would hope that the proposed listing would be deleted.

With this in mind, I would like to request that you extend the comment period until such time as the new samples can be taken, and the results obtained and analyzed.

Thank you for your consideration.

Very truly yours,

WILLIAM A. KUCHARSKI, *Secretary.*

Mr. UPTON. Thank you.

Mr. Robbins.

STATEMENT OF DONALD A. ROBBINS

Mr. ROBBINS. Mr. Chairman, members of the subcommittee, my name is Donald A. Robbins. I am director of environmental services for western operations of ASARCO Inc.

I appreciate the opportunity to appear before you today to present ASARCO's views on the role of the States in the Superfund program. I will briefly summarize my remarks and have submitted a copy of my full written statement for the record.

ASARCO is a mining and minerals processing company which produces copper, lead, zinc, silver and their byproducts and has facilities in Idaho, Colorado, Texas, Montana, Arizona, Missouri, Nebraska, and Tennessee. ASARCO's origins date back to late 1800's. ASARCO is one of the few mining companies from the last century that is still surviving today.

ASARCO has been named a PRP at a number of Federal NPL sites and is also involved at sites being addressed under State authorities.

Let me say at the outset that ASARCO supports increasing the role of the States in a reformed Superfund, and we believe that the best way to do this is through a program under which the States would have the option to be delegated the authority to implement the Federal Superfund program.

Let me be clear. We are not suggesting delegation of the current Superfund program but rather delegation of a newly reformed Federal program with significant changes to the liability and remedy selection provisions. To put our position on the Federal-State relationship into context, ASARCO supports reform of Superfund that includes repeal of retroactive liability, significant changes in remedy selection, and reform of the natural resource damage provisions.

Attached to my written testimony is a paper containing a more detailed outline of Superfund reforms ASARCO is supporting.

You will hear testimony today from States that favor State authorization for the Superfund program instead of State delegation. Authorization would allow States to use their own Superfund programs in lieu of the Federal Superfund program at NPL sites. Delegation would give States the authority to implement the Federal program at NPL sites.

We can understand why the States would not want delegation of the current Federal Superfund at NPL sites. We can understand why they would not want to implement a failed Federal program. We can also understand that States do not want to be micromanaged by EPA.

However, a well crafted delegation of a reformed Federal Superfund program would address these State concerns. Delegation of a reformed Superfund would make it possible to achieve the broadest implementation of liability and remedy selection reforms while at the same time giving States latitude for implementing and enforcing the Superfund program in their States. States who are delegated the authority to implement the Federal Superfund program would also have sole authority and responsibility to, among other things, select the remedy and enforce the program.

This committee is spending a lot of time and effort taking a broken Federal Superfund program and taking it into a program that speeds cleanups, is equitable, and continues to protect human health and the environment.

Once you have reformed the Federal Superfund program, it seems to be in everyone's best interest to have this new program used for all NPL sites. Under an authorization approach, however, the newly reformed Federal program would not be used for NPL sites in authorized States. Instead, the result would be that the reformed Federal Superfund program would be replaced by authorization of 50 different State programs.

There is a general desire for States to have an enhanced role in implementing a reformed Federal Superfund program. This can be achieved by giving States the choice to receive delegation to use Federal Superfund authorities to clean up NPL sites.

In addition, an enhanced State role can include giving Federal funding to States to apply the reformed remedy selection and liability approach to non-NPL State sites on a site by site basis.

For NPL sites, suggestions for how a delegated program could be structured include:

Giving States the option of receiving delegation for clean up of some, all, or none of the NPL sites within their borders.

Requiring States receiving NPL site delegation to use Federal authorities at these delegated sites using a simple and straightforward process for obtaining delegation. One possible approach is a self-certification process with automatic delegation if requested for States with authorized RCRA corrective action program and limited authority for EPA to object to certifications made by others.

Giving States exclusive responsibility for implementing and enforcing the Federal Superfund program at delegated NPL sites, including selecting the remedy.

Limiting EPA's oversight role to auditing the use of the program funds and decertifying States that fail to materially carry out the delegated program.

Considering applying a single match—for example, 10 percent—on total cleanup and operation and maintenance or O&M costs for all NPL sites in each State in lieu of the current statutory State share requirement for cleanup and O&M costs.

And giving States the authority to delist NPL sites.

There are a variety of options for how funding for delegated NPL sites could be distributed. For example, block grants or competitive grants could be considered. These types of grants could also be considered for non-NPL State sites.

ASARCO appreciates the opportunity to testify before the committee on the role of the States in a reformed Federal Superfund program. We understand the complexity of this issue and welcome the opportunity to work with the committee to craft a flexible and balanced program that meets the needs of all interested parties.

Thank you.

[The prepared statement and attachment of Donald A. Robbins follow:]

PREPARED STATEMENT OF DONALD A. ROBBINS, ASARCO INCORPORATED

Mr. Chairman, members of the subcommittee, my name is Donald A. Robbins. I am Director of Environmental Services for Western Operations of ASARCO Incorporated. I appreciate the opportunity to present Asarco's views on the role of states in the Superfund program. Asarco is a mining and minerals processing company, which produces copper, lead, zinc, silver, and their byproducts and has facilities in Idaho, Colorado, Texas, Montana, Arizona, Missouri, Nebraska, and Tennessee. In addition, Asarco owns 100 percent of Enthone-OMI, a specialty chemicals manufacturer, with operations in Connecticut, California, Illinois, and Michigan.

Asarco's origins date back to the late-1800s. Asarco is one of the few mining companies from the last century that is still surviving today, and the company or its subsidiaries over the years have conducted exploration activities or actual operations in old mining districts throughout the United States. This historical perspective gives Asarco unique experience in working with Superfund at both the federal and state levels. Asarco has been named as a PRP at a number of federal NPL sites and is also involved at sites being addressed under state authorities.

Let me say at the outset that Asarco supports increasing the role of the states in a reformed Superfund and we believe that the best way to do this is through a program under which the states would have the option to be delegated the authority to implement the federal Superfund program. Let me be clear, we are not suggesting delegation of the current Superfund program but rather delegation of a newly

reformed federal Superfund with significant changes to the liability and remedy selection provisions. Delegation of the federal Superfund authorities would make it possible to achieve the broadest implementation of the liability and remedy selection reforms that need to be incorporated in a new Superfund program, while at the same time giving the states latitude for implementing and enforcing the Superfund program in their states.

To put our position on the federal-state relationship into context, Asarco supports a program in Superfund reform that would repeal the application of strict, joint and several, and retroactive liability for disposal of hazardous substances occurring before January 1, 1987. In addition, Asarco advocates substantial reforms to the remedy selection process, including a requirement that the remedy be based upon a site-specific risk assessment and that the benefits of the remedy selected be reasonably related to its costs. Asarco also strongly supports clarifying and placing reasonable limits on eligible natural resource damages (NRD). See the attached paper for a more detailed outline of the reforms Asarco is supporting.

You will hear testimony today from states that favor state authorization for the Superfund program instead of state delegation. Authorization would allow states to use their own Superfund programs in lieu of the federal Superfund program. Delegation would give states the authority to implement the federal program.

There is a strong sentiment in Congress to give states an increased role in implementing federal programs and in some instances there is a belief that certain federal programs should be turned over to the states. Asarco generally shares this view. However, there are problems associated with authorization that can be avoided through a delegation of federal Superfund authorities to the states. A flexible and well-crafted state delegation program under a reformed Superfund could offer the states a significant new role in Superfund while ensuring that the benefits of a newly reformed Superfund program are captured at NPL sites.

It is important to remember that we are not talking about delegating the current broken Superfund program but rather delegating the new, reformed program that will be developed as a result of Superfund reauthorization. In this context, we believe that a properly constructed delegation program can maximize the efficiency of the program, protect human health and the environment, and achieve the important objective of increasing the role of the states in the implementation of the federal Superfund program.

This committee is spending a lot of time and effort taking a broken federal Superfund program and turning it into a program that speeds cleanups, is equitable, and continues to protect human health and the environment. Once you have reformed the federal Superfund program it seems to be in everyone's best interest to have this new program used in the 50 states.

Under an authorization approach, however, the newly reformed federal program would *not* be used in authorized states. Instead, the result would be for Congress to reform the federal Superfund program only to have it replaced by authorization of 50 different state programs.

A properly crafted delegation program can avoid the pitfalls associated with authorization and still achieve the desired objectives of an enhanced state role. It is widely recognized that states have a greater familiarity with the sites within their borders and have established working relationships with the affected communities. States who are delegated the authority to implement the federal Superfund program should have sole authority and responsibility to, among other things, select the remedy and enforce the program.

Under a delegation program, the states should be able to exercise autonomy and EPA should not be in a position of constantly second guessing the states' decisions. The states should have the flexibility under a delegation program to select remedies and enforce the federal program without the constant threat of EPA intervention. EPA would of course be allowed to revoke the delegation upon a showing that the state was not materially enforcing the requirements of the federal Superfund program. Once it is realized that a delegation program can be developed that gives the states flexibility, independence and funding, we hope the states will agree that their objectives as well the general public interest can be best met through an appropriate delegation of federal Superfund authority.

SUGGESTIONS FOR STATE ROLE IN A REFORMED SUPERFUND PROGRAM

There is a strong desire that states have an enhanced role in implementing a reformed federal Superfund program. To best accomplish this, states should be given the choice to receive delegation to use federal Superfund authorities to cleanup NPL sites. In addition, states should be given federal funding to apply the reformed remedy selection and liability approach to non-NPL state sites on a site-by-site basis.

State Delegation For NPL Sites

Delegation Should be Voluntary and Could be Partial.—States should have the option of receiving delegation for the cleanup of NPL sites (including selecting remedies) under the authority of the federal Superfund program on a site-by site or statewide basis. States could request delegation for all NPL sites within their borders, some sites, or no sites. Consideration might also be given to allowing states to take delegation for some but not all aspects of the cleanup process at NPL sites (e.g., conducting RI/FSs or making the remedy selection decisions).

Delegation Would Require Use of Federal Authorities.—States that receive NPL site delegation would be required to use the federal Superfund authorities at those sites. Remedies would be selected and liability applied using the authorities and procedures established in the reformed Superfund statute.

Certification Process Should Be Simple.—The process for a state to obtain delegation should be simple and straightforward. For example, states that request delegation could receive it after submitting a certification of competence to EPA and after specifying the sites for which they seek delegated authority (all NPL sites within their borders or specified NPL sites). If a state already has authorization for the corrective action program under the Resource Conservation and Recovery Act (RCRA), it would so indicate in its certification request and EPA would be required to grant automatic certification in such a case.

Alternatively, states that do not have RCRA corrective action authority would certify that they have the necessary financial and personnel resources, organization, and expertise for carrying out the implementation of the federal program. EPA should have a set period of time (e.g., 60 days) in which to review such a state certification. If at the end of that time EPA states no objection, delegation would take effect. EPA could object within a 60-day period if it found that the state did not have the financial and personnel resources, organization and expertise to run a delegated program. In this event the state should be able to apply to EPA for formal delegation pursuant to a contract or cooperative agreement setting forth agreed terms. EPA should be required to process such an application within a set period of time (e.g., 60 days) of its receipt.

States Should Have Exclusive Authority For Delegated NPL Sites and the EPA Role Should Be Minimal.—On certification of competence by a state and no EPA objection, or after application and completion of a contract or cooperative agreement at delegated sited, the state should have exclusive responsibility for implementing and enforcing the federal Superfund program. A delegated state would have sole authority and responsibility to implement the federal Superfund program, including, but not limited to, selecting the remedy and enforcing the program. States that obtain delegated authority to administer the federal Superfund program would have exclusive authority to proceed at delegated sites under Sections 104, 106, and 107.

EPA's oversight role should be limited to auditing the use of program funds and to exercising limited authority to decertify states that are failing to materially carry out the delegated program.

Certification Should Only Be Withdrawn Under Limited Circumstances.—Congress should consider allowing EPA to withdraw delegation under limited circumstances. For example, if EPA finds, contrary to a certification, that a state lacks the requisite resources or personnel to administer the federal Superfund program, or if the state is failing to materially apply the federal Superfund program at the sites for which it has obtained delegated authority. EPA should be able to withdraw delegation from states that have entered into delegation contracts or cooperative agreements if EPA finds that a state has materially breached such an agreement. In the event EPA proposes to withdraw delegation from a state, it should first give the state notice, and an opportunity for at least 90 days to correct any deficiency.

Under Certain Conditions States Could Apply More Stringent Remedies.—Consideration could be given to allowing states to require more stringent remedies at delegated NPL sites if they paid the incremental difference. The cleanup standards to be applied under the federal Superfund program, as applied by a state with delegated authority, could be more stringent than those otherwise required under the federal program provided that the state bears the additional costs without recourse to the Trust Fund or PRPs. Otherwise the liability reforms of a new Superfund law would be lost.

Consideration Should be Given to Eliminating the Current State Cost Share Provisions for Cleanups and Operation and Maintenance Costs and Replaced With a Single State Match.—Congress should consider eliminating the current statutory requirements that states pay 10% of the cleanup costs at fund-financed non-public sites and 50% at fund-financed public sites as well as the requirement that states pay 100% of operation and maintenance (O&M) costs at fund-financed sites. In lieu of the current statutory requirements, Congress could consider applying an across

the board match (e.g., 10%) that *all* states, whether they have delegated authority or not, would have to contribute to the total cleanup and O&M costs for NPL sites in their states. This may be a more equitable approach than the current system. Under a reformed Superfund program, such a match could actually result in *lower* state costs than current law. In addition to the cost savings to states from eliminating the current statutory requirements for state cleanup and O&M payments that range from 10% to 100%, the Superfund reform proposal that Asarco supports would also reduce state and local costs by eliminating retroactive liability for those states and municipalities that have been named as PRPs for pre-1987 hazardous substance disposal, just as it would for private PRPs.

There Are A Number of Options for How Funding For Delegated NPL Sites Could Be Distributed.—There are a number of options that Congress could consider for distributing Superfund Trust Fund money to states that receive delegation for NPL sites. The funding allocation method should be relatively simple and fair. One option would be to distribute funds through grants to the states based upon the number of NPL sites delegated. This grant money could be given in a block to be used at any delegated NPL site within the state or it could be earmarked for particular activities (e.g., conducting an RI/FS, implementing construction) at specific delegated sites. Grants could be awarded based upon formulas that are as simple as the number of delegated NPL sites or that are more complicated and take into account the stage at which particular NPL sites are (e.g., pre-RI/FS, ROD, remedial design, construction). In lieu of some form of block grant, funds could be awarded through competitive grants on a site-specific basis. Congress also might want to consider distinguishing between how administrative costs for delegated sites are funded versus how cleanup costs are funded. There are a variety of options that can and should be explored and discussed with interested parties.

States Should Have the Authority to Delist NPL Sites.—States should have the authority to delist NPL sites. This could be accomplished by authorizing states to make delisting decisions after public notice and opportunity for comment. Alternatively, a process could be established for states to petition EPA to request delisting and unless EPA objected the delisting would go forward. Appropriate opportunities for public notice and comment should be built into such a process.

Funding for Non-NPL Sites

With Minimum Requirements States Could Receive Funding To Cleanup Non-NPL Sites.—States should be able to apply for federal funding to clean up non-NPL state sites. However, in order to capture the benefits associated with a reformed federal Superfund program, federal funding should be made available to be used at sites where the liability and remedy selection processes used by the states are not at odds with the reformed Superfund program. Specifically, we believe that states should only be allowed to use non-NPL site grant money at sites where they are willing to use a remedy selection approach that is no more stringent, either in process or cost outcome, than the approach in a reformed Superfund *and* where they do not apply PRP liability for hazardous substances disposed before January 1, 1987.

States would be free to use whatever liability and cleanup standards available to them at any state sites not receiving federal money. Furthermore, Congress could consider allowing states to apply more stringent remedies at non-NPL sites receiving federal funding if the states agree to pay for the incremental additional costs. However, if states have this option, they should be prohibited from recovering the additional costs from PRPs. Allowing such cost recovery for federally-funded sites would be inconsistent with the liability reforms we hope to achieve in a new Superfund law.

It is important to make clear that Asarco is not suggesting state preemption nor are we proposing an unfunded mandate. Where federal money is made available for cleanup at non-NPL sites, however, states should have to agree to certain limited conditions to receive such funding. States would not be required to apply for such funding if they did not want to agree to such conditions, that would be their option. We believe, however, that many states would find such a program attractive since it could help speed cleanups and lower transaction costs for all the parties involved including the states.

Money Can Be Made Available to Fund A State Grant Program for Non-NPL Sites.—The type of overall Superfund reforms Asarco is supporting can be expected to result in money being available to fund a state grant program for non-NPL state sites while at the same time allowing for the current pace of cleanups at NPL sites to continue. Such a state grant program could begin immediately after a reformed Superfund program takes effect. As the savings from a reformed remedy selection program are realized and the backlog of NPL sites are addressed, a growing amount of money will be available to support such a state grant program.

There are a variety of options Congress could consider for determining how much money to provide for a state grant program for non-NPL sites. For example, Congress could earmark a portion of the annual Superfund appropriations for a state grant program. Congress might even consider mixing the NPL funding for delegated sites with funding for non-NPL sites to give states greater flexibility in addressing priority sites.

There Should Be A State Match for Non-NPL Site Cleanup Funding.—It is fair and appropriate for states to pay a match on any funding they get to address cleanup at non-NPL sites. Congress should determine an appropriate level, which could be the same or higher than the match for NPL sites.

There Are A Number of Options for How Funding For Non-NPL State Sites Could Be Distributed.—Similar to the way funding for NPL delegated sites might be distributed, there are a variety of options Congress could consider for how to fund non-NPL sites. Block grants (general or site-related) as well as competitive grants are options. Consideration could be given to providing money to the states through a combined formula that includes an NPL portion and a non-NPL portion. Money could then be earmarked for use at NPL and non-NPL sites, respectively, or Congress could decide to let the states move money back and forth between sites (as long the respective cleanup and liability rules were applied to NPL and non-NPL sites).

CONCLUSION

Asarco appreciates this opportunity to testify before the Committee on the role of the states in a reformed federal Superfund program. We understand the complexity of this issue and welcome the opportunity to work with the Committee to craft a flexible and balanced program that meets the needs of all interested pates.

CENTRAL ELEMENTS OF A NEW SUPERFUND

No Retroactive Liability for Pre-1987 Disposal and Proportional Liability for Post-1986 Disposal. There should be no application of strict, joint and several, retroactive liability for hazardous substances disposed before January 1, 1987, at any non-federal site. Any payments or expenditures for removal or remedial costs, response costs, NRD costs, or health study costs associated with pre-1987 hazardous substance disposal that are made after the date of enactment of a new Superfund law would be paid for by the Trust Fund (except that as noted below there would be no liability and therefore no Trust Fund payments for NRD costs associated with hazardous substances disposed before December 11, 1980). Proportional liability should apply to hazardous substances disposed after 1986 at non-federal sites.

Clarify NRD Liability and Place Reasonable Limits on Eligible NRD Costs. There should be no liability for natural resource damages (NRD) for hazardous substances disposed before December 11, 1980. In addition, reasonable limits should be placed on eligible NRD costs for hazardous substances disposed after December 11, 1980, at non-federal sites (e.g., focus on public resources, cap recoverable damages, prevent double recovery, select least cost restoration/recovery methods).

Significantly Reform Cleanup Standards and the Remedy Selection Process Using Site-Specific Risk Assessments and Cost-Benefit Decisionmaking. Human health risk ranges should be used as goals to guide remedy selection at all NPL sites. Site-specific risk assessments should be used to develop a set of possible remedies for consideration. When selecting remedies, the use of applicable and relevant requirements (ARARs) and the preference for permanence and treatment should be eliminated. Final decisions on remedy selection should be made by comparing the costs, net health, and environmental benefits of the alternatives, with priority for funding directed at real and significant risks to human health. No remedy should be selected for which the benefits are not reasonably related to the costs. Remedies that do not achieve the risk range may be selected when the incremental costs of attaining the risk range do not justify the net incremental benefits.

Enhance State Role at NPL Sites and Provide Incentives for Reform of State Programs. Qualified states should have the option of receiving delegation to manage NPL sites (including selecting remedies) under the authority of the federal Superfund program on a site-by-site or statewide basis. Qualified states should be provided with financial incentives to respond to non-NPL sites using an approach consistent with the federal Superfund program.

Encourage Voluntary Cleanup Programs. States should be provided with financial incentives to establish voluntary cleanup programs, and sites certified by qualified states as having completed cleanups under a qualified state program should receive protection from liability under CERCLA and other federal statutes.

Limit Size of the Program and Reform Administration. The total number of sites on the NPL should be capped. Contracting for response actions paid for by the Superfund Trust Fund should be the responsibility of a new contracting authority, not the U.S. Environmental Protection Agency (EPA).

Mr. UPTON. Thank you, Mr. Robbins.

We are adding Senator Inhofe to the panel as he was unavoidably detained from panel one. I must admit that we have learned from the experience that the Senate does have a little slower clock over there.

Welcome, Mr. Inhofe.

STATEMENT OF HON. JAMES M. INHOFE

Mr. INHOFE. Thank you, Mr. Chairman. In a minute I'm going to rebut to that.

I do appreciate the opportunity be here and to discuss one of the three most significant aspects of Superfund reform before your committee here. As a matter of fact, I think the Senate is quite a bit ahead of the House in this respect in that we have had seven hearings so far, and we had the administrator at four of those hearings. So we are moving right along.

I come here today to in part describe my concept of the State role and to reassure you that the Senate is indeed a part of the revolution that took place on November 8 in wanting less government regulations in our lives and less harassment of the private sector that is paying for all this fun that we are having here in Washington.

When I talk to my constituents both in conversations and through letters they complain about the intrusion of the Federal Government into their lives and the bureaucratic attitude that they know it all in Washington and they are to come back and tell us what to do in the States with no regard for the fact that it's the tax dollars of those companies that are paying specifically for the cleanup but also for the other areas of regulation.

I don't want to say that there is no role for the Federal Government. I believe there has to be a Federal presence in assisting in emergency responses and a Federal presence to help set guidelines for cleanup standards. But after that, I'm willing to put anything else on the table.

After 15 years of Superfund experience we have learned a lot of lessons. Most of what we have done is wrong. We need to reflect on those lessons that we learned and our experiences and the will of the people as shown in the November election as we consider the reauthorization of the Superfund program.

Again, I am not advocating the abandonment of environmental protection, but I am advocating the abandonment of the failed environmental policies of the past.

The Superfund program is different than some of the other programs. It is a local program, Mr. Chairman. It is one that takes place in a local community or in a State. It is not like an air pollution problem where the winds blow from State to State. It is not like a water pollution problem where it hits the streams and goes from State to State. It is localized.

When we look at the efforts of the local communities, we have many, many examples we can draw upon. One happened in Bossier

City, Louisiana. In Bossier City OXY U.S.A., involved in a Superfund problem down there, sat down with the State of Louisiana, with the city of Bossier City, and with the consumer groups and arrived at some conclusions, and they started a cleanup. Then the EPA came along and stopped them from doing it. We know that once we get on the list and once we start the arduous process of the Federal Government and the Federal EPA supervising cleanup, the average time is approximately 9 years.

I mentioned at the beginning of this that this is one of the three most significant parts, and let me briefly address the other two. Since Mr. Robbins did, I guess I can do it too.

One is in the area of retroactive liability. We have a mining company in the State of Oklahoma by the name of FSN Mining Company. This was purchased by the current owners in 1955. They hadn't mined since 1945. They traced back and found a violation that they have agreed was the fault of this mining company that occurred 50 years ago this year. No one who was in the company at that time is even alive today.

These individuals have tried to communicate with the EPA, tried to have meetings, tried to arrive at a settlement, and the EPA has issued a statement they will take nothing less than the total value of the company in settlement.

Mr. Chairman, I will remind you, since you weren't here at the time when I started, that we in the Senate have actually had seven hearings on Superfund. So we are moving right along over there. As a result of that, I think they are going to at least be able to get a hearing before the EPA.

Joint and several liability. We have a company in Tulsa, Oklahoma, that is run by a guy named Jim Dunn. It's called Mill Creek Lumber Company. Mill Creek Lumber Company has been selling their used crankcase oil to the same contractor for 10 years. That contractor is licensed by the Federal Government, by the State of Oklahoma, by the county of Tulsa.

They traced back 10 years ago some oil that had been disposed of in the Double Eagle site and went back and wrote a letter.

I got a call from this guy saying, you know, here we are, a small lumber company, a family operated company, third generation, and they received this letter. I will read to you a few sentences out of the letter: "Failure to respond fully and truthfully to the information requested within 30 days of receipt of this letter or adequately justify such failure to respond can result in enforcement action by the EPA pursuant to section, section, and so forth. These statutes permit EPA to seek the imposition of penalties of up to $25,000 a day for continued noncompliance. Please be further informed and advised that provision of false or fictitious fraudulent statements or representations may subject you to criminal penalties".

Here is a company that disposed 10 years ago under totally legal means to a contractor that was licensed by all the entities that license, and to receive a letter like that. Yes, it's true that we are able to go in there and help those people. But as I told the administrator when she came in, it's not a matter of helping Mill Creek Lumber Company and Jim Dunn, because for each one of those there are 2,000 or 3,000 others who haven't called their Congressman, who are not a part of these hearings that we are holding.

This is the kind of harassment that we are not going to allow to occur any longer.

Finally, Mr. Chairman, as a former mayor of Tulsa, Oklahoma, I firmly believe that most of the aspects of the Superfund program can be best accomplished at the State and local levels. I think that the local communities can do it better.

I think most of us that were involved in the revolution of November believe that the closer you get to the people the more effective it can take place. We also know that cleanup under the supervision of the Federal EPA doesn't work. It has been a dismal failure.

I would conclude by saying we have a real opportunity for the first time in 40 years to learn from our mistakes of the past and to redefine environmental protection and to get the huge, abusive, arrogant bureaucracy out of the faces of property owners, businesses and citizens who are paying taxes to support this monster, and we are going to do it.

[The prepared statement of Senator James M. Inhofe follows:]

PREPARED STATEMENT OF JAMES M. INHOFE, A U.S. SENATOR FROM THE STATE OF OKLAHOMA

Thank you Mr. Chairman and Members of the Subcommittee. I am very pleased to be given this opportunity to testify before you, on what I consider to be one of the most important aspects of Superfund reform, the State role. For the past several months, the Senate Environment and Public Works Committee has held seven oversight hearings on Superfund, where we have heard from over 45 different witnesses.

I come here today in part to describe my concept for a State role and to reassure you that the Senate is indeed part of the Republican revolution. I challenge you to be bold and innovative in the redesign of the Superfund program because my colleagues in the Senate and I will be just as bold and innovative, if not more so.

When I talk to my constituents, both in conversations back in Oklahoma and through letters they write me they complain of the intrusion of the Federal government into their lives. They have know-it-all bureaucrats in Washington D.C. telling them they know what's best for them whether they realize it or not. The Superfund program has been designed for the Federal government to tell the local and State Officials what's best for their own communities, and this is going to stop. Superfund has turned into a Federal program of land use planning that practically infringes on zoning decisions.

We may need a Federal presence to assist in emergency responses and a Federal presence to help set guidelines for cleanup standards. After that, I'm willing to throw the entire program on the table to see what can and should be handled by the States.

After fifteen years of Superfund experience, we have learned a lot of lessons and experienced a shift in the political direction of the country, from a large Federal bureaucracy to more State control. We need to reflect on the lessons learned in our experience and the will of the people as shown in last November's election as we consider the reauthorization of the Superfund program. I am not advocating the abandonment of environmental protection, but I am advocating the abandonment of the failed environmental policies of the past.

In the Superfund program we are primarily dealing with local pollution, in a defined area. We are not dealing with air pollution that travels over State boundaries or water pollution that flows into our nation's river systems. We are dealing with localized problems that need local solutions.

We don't need a Federal program that steps in and tells a local government and local community groups that a site in their neighborhood must be listed, against their wishes and in direct conflict with their agreement with the involved company. These are the facts in a case that I have mentioned at several of our hearings, the OXY USA case in Bossier City, Louisiana. The State and local community group had been working with OXY on a cleanup plan when the EPA stepped in and proposed the site for the Superfund list, against the wishes of the State and community group. At this point the City Council of Bossier City has agreed to hire contractors and oversee the cleanup, but the EPA is still continuing with the listing process. Sites should not be placed on the National Priority List (NPL) unnecessarily. Situa-

tions like this do nothing to help the local community and in fact harm the local property owners by decreasing the value of their land,

As a former Mayor of Tulsa, Oklahoma, I firmly believe that most aspects of the Superfund program can best be accomplished at the State and local level. Specifically I believe States should have control of the following:

- States should maintain the overall authority for listing new sites as Superfund sites. They need to work with their local communities to determine if a listing is the best alternative.
- States should be encouraged to work with responsible parties to develop voluntary clean up initiatives. If the listing of a site can be avoided, it must. Listing a Superfund site is detrimental to the local community, it stigmatizes local property owners and causes delays in actual clean ups.
- States should be given the authority to set clean up priorities. They know best which sites should be cleaned up first based on environmental and safety concerns and land use priorities.
- States should determine what the appropriate level of clean is, by considering the relative risk and the potential uses of the land. "How clean is clean" is a policy decision that needs to be based on the future uses of the land, and made at the local level.

We have a real opportunity for the first time in forty years to learn from our mistakes of the past and to redefine environmental protection. And to get the huge abusive, arrogant bureaucracy out of the faces of the property owners, businesses and citizens who are paying the taxes that support this monster. And we're gonna do it.

Mr. OXLEY. We thank the gentleman and our former colleague from Oklahoma for being with us today. I know the schedule is heavy on the Senate side. We had a good meeting with Bob Smith yesterday. We are pleased that progress is being made on the Senate side. I wish you would have as good progress on the Contract with America. I know you want to get back and work on it.

Mr. INHOFE. We are saving it all up for Superfund.

Mr. OXLEY. Thanks, Jim.

Let me begin the questioning with Mr. Porter. Do you think the States will have tough enough cleanup standards or do we need national standards? Or should we worry about it?

Mr. PORTER. Mr. Chairman, I don't think we need any further national standards. We actually have quite a few national standards already.

If you read the six write-ups I have in my testimony about those six States, which are sort of typical of many others, the cleanup standards right now in most of the States sound a lot like the Federal standards. The term "MCL", maximum contaminant limits, is thrown around. Ten to the minus six cancer risk is in there. Risk range is in there.

So my sense is that most of the States that have most of the Superfund sites already have standards which are very similar to the Federal standards. I would not drag them through a real detailed process to do much more than that.

Mr. OXLEY. In your study, did a lot of the States tend to copy to some extent the Federal law?

Mr. PORTER. Yes, they did, Mr. Chairman. You will see the term "National Contingency Plan" or NCP in there a lot too where many of the States simply adopt sections of the Superfund Federal National Contingency Plan which talks about things like cleanup standards. Some will even say we're doing a public hearing process a la the NCP. So I think that has actually served as good guidance, and while the States don't do it totally in that way, they have picked up on a lot of that.

Mr. OXLEY. You heard the testimony from Mr. Jeffreys regarding the revolving fund. Does that work with your concept of turning this back to the States?

Mr. PORTER. I think it's a very interesting concept. I think the whole issue of funding is going to take a lot of hard thought. I think the revolving fund is certainly one way to do it. I think it could fit in that context.

One thing, Mr. Chairman, I would sort of caution—my State friends may not be delighted with this statement—not to give the States huge amounts of money. One of the reasons why the States frankly are doing a good job is they have been very direct with their moneys and their funds. Minnesota has a $30 million Superfund. Texas has $40 million. New Jersey about $100 million. Fairly large amounts of money. They are not perfect, but it has gone pretty directly to clean up and sort of rifle shot studies. What you don't want to do is substitute a big Federal bureaucracy for 50 State bureaucracies.

Mr. OXLEY. As I understand Mr. Jeffreys' testimony, he is talking about a revolving loan fund.

Mr. PORTER. Yes.

Mr. OXLEY. So there would be some discipline, I would assume, on the States, assuming of course that they would have to pay that back.

Mr. PORTER. I think that would be an interesting concept. I do think the term "discipline" is a good one. I think that the States are already doing a lot of work. The idea of a loan may make a lot of sense. What do you do with this $1.5 billion EPA has now and how fast do you get it out there. I would like to get it out there fairly quickly, at least most of it. Some discipline on the States in a revolving loan fund certainly might be one way to do that.

Mr. OXLEY. What about the role of the States in Federal facilities? While we are turning over all of this to the States, why not include the Federal facilities?

Mr. PORTER. That is a tough issue. Certainly the States ought to have a very heavy role in Federal facilities, and they do through the tri-party agreement kind of arrangement that we have at most large sites.

My sense is you can't do it totally because, first off, Federal facilities are different. They are funded through the congressional appropriation process which has to weigh other priorities.

I think again this word "discipline" comes in. I found when I was running Superfund, as I said, States inevitably were wanting private sites to cost less where they had to pay 10 percent; with Federal sites the sky was the limit. I don't mean that disrespectfully, but there wasn't as much discipline. Billions were thrown around pretty loosely by the States when it was "just Federal money."

I think you have got a little more of a tough issue there of having somebody operate or run or regulate the Federal sites who don't provide any of the money. If they want to provide 10 percent of the cleanup, sure.

Mr. OXLEY. Mr. Robbins, do you agree that if all we do is delegate to States the authority to implement the current Federal Superfund program this would result in just transferring the existing inefficiencies in Superfund from EPA to the States?

Mr. ROBBINS. I do. We feel firmly that the most important job that the Congress has, Mr. Chairman, is to modify the present program to give a program that can be implemented uniformly across the States and the country to provide for cost-effective cleanups and protection of the environment in a manner that makes sense. We firmly believe that, yes.

Mr. OXLEY. Mr. Robbins, based on your experience working with various States under the Superfund program, do you believe the States have the capability to implement a delegated Federal Superfund program for sites on the NPL?

Mr. ROBBINS. Yes, sir, I do. Mr. Chairman, as I mentioned in my statement, we feel that there could be a delegation program that could be implemented to allow the States to be delegated to operate the Federal program. For example, in States that have RCRA corrective action programs in place and approved at this time, and there are somewhere in the neighborhood of 30 of those States right now that have that, I believe there is expertise in the States to do that in fact.

Mr. OXLEY. My time has expired.

The gentlelady from Oregon.

Ms. FURSE. Thank you, Mr. Chairman.

Mr. Chairman, at the subcommittee's first Superfund hearing March 16 the committee received testimony from Ms. Donna Rose of Triumph, Idaho, a small community located close to a tailings from a lead mine. She was presented as a witness for the so-called horror story about the EPA. Of course there was no EPA official invited to respond or to present their views on this site.

Recently I have been made aware of a letter which I ask be made part of the record from Ms. Rose to ASARCO, dated May 25, 1995. ASARCO is the mining company responsible for the site. Let me read several of Ms. Rose's statements contained in the letter:

"Our community, acting in good faith, tried to keep EPA out of Triumph because we felt that ASARCO and the State could do a more efficient cleanup job on the site with more consideration in regards to the needs of the community. At this time the community is discussing that. We probably made a big mistake with the EPA and that the EPA should be brought back. I personally feel the same. We no longer feel that ASARCO is a good corporate citizen but one which has used the community to their advantage politically and is not going to do right by our town.

ASARCO's reps announced that they are not taking responsibility for the mine waste pile or the mine drainage. If the above is the stance being taken by ASARCO, I feel I have been led down the primrose path as I have supported them locally as well as nationally and before Congress. I feel that Triumph's residents have been duped by ASARCO, and it is clear that ASARCO's intention is to do as little as possible with regard for the health of the residents or their property values. You can see by the enclosed photo of the wastewater that this is an unacceptable situation."

Ms. Rose, by the way, was credited and thanked as an excellent and credible witness.

[The letter referred to follows:]

CONCERNED CITIZENS OF TRIUMPH
May 25, 1995.

Jim Woods
Attorney for Asarco
180 Maiden Lane
New York, New York

DEAR JIM: I received Asarco's response in regards to my letter of a few months ago. This letter was a request for Asarco to purchase my home, barns, outbuildings and approximately 5 acres of which 3 are covered with tailings for $750,000.

Since my letter and Asarco's response, several alarming comments have been made by Asarco in meetings between Triumph citizens and Asarco representatives.

Our community, acting in good faith, tried to keep EPA out of Triumph because we felt that Asarco and the State could do a more efficient and comprehensive clean-up of the site, with more consideration in regards to the needs of the community. At this time the community is discussing that we probably made a big mistake with the EPA and that EPA should be brought back. I personally feel the same. There are several other sites in the County, most notably the Minnie Moore Mine and the Ketchum smelter, which are both on the river. These sites are probably more dangerous than Triumph and have been ignored by EPA. We no longer feel that Asarco is a good corporate citizen, but one which has used the community to their advantage politically and is not going to do right by our town.

For the past two years Asarcos' Attorneys and Engineers have represented that it was their intent to do a quality cleanup. On April 18, there was a community/State/Asarco meeting in Hailey in which Marcia Newlands and Chris Pfanl stated publicly that Asarco is not taking responsibility for the site, but is only sampling and assessing the damage. We were dumbfounded.

Asarcos' reps announced that they are not taking responsibility for the mine waste pile or the mine drainage. This meeting was proceeded by a meeting a few weeks before, which Asarco showed videos of yard remediation and offered all residents the opportunity to have their yards remediated. Asarco has now requested access from all residents for sampling and is now sampling in Triumph. I am refusing access for the simple reason that it makes no sense to allow Asarco to make tests on a site for which they bear no.

If the above is the stance being taken by Asarco I feel that I have been led down the primrose path as I have supported Asarco locally as well as nationally in the press and before Congress a few months back. Pat Murphy also testified before the Senate. The issue of responsibility is of utmost importance as all residents property has been damaged in value aesthetically and financially due to the tailings piles and wastewater. The amount of national negative publicity and even the words from Asarco's engineer in regards to my property, "her property is not worth much if anything" because Triumph is located on a proposed Superfund site. See Letter from Pat Murphy. The stigma in Triumph will never go away of being given the highest score in Superfund history.

I have just been recently been turned down by Blaine County on a subdivision after the second try in four years. My main objective was to reduce my proposed lots from 7 to 3 and separate a fourth lot which contained tailings from the others. I was denied due to the tailings and the many unanswered questions in the minds of the P and 2 in regards to the water quality, soil quality and their legal responsibility if they did approve a subdivision. I cannot legally separate my residence from the Lower Tailings pile.

I gave you a proposal to purchase my property because it is the only property in Triumph which is covered with tailings and has mine wastewater running the length of the property. See photo. It is also true that even if Asarco were to remediate my property it would still not be usable or saleable or subdividible.

I no longer live at the site as the stress and strain of living and working in Triumph with all the pressures has become unbearable. Even though I am not living there, because I own property there, I cannot abandon the struggle. I feel responsible to the community as I am an elected Community Representative. Many of the residents are very confused about Asarcos' intentions and responsibility to the Triumph community. This was the first time that we realized that Asarco did not intend to take full responsibility for their portion of the cleanup.

There is no doubt that property values in Triumph suffer directly because of the tailings piles and the orange water which runs through our town as well that the hundreds of articles and t.v. programs which have been shown nationwide. Up to thirty days ago I was convinced that Asarco was being victimized by EPA. Now I am not sure I feel that Triumph residents have been duped by Asarco. It is clear that Asarco's intention is to do as little as possible with no regards for health of

the residents or for their property values. You can see by the enclosed photo of the wastewater that this is an unacceptable situation.

In the last sixty days our community engaged in conversations with several attorneys about the possibility of a class action suit to ensure that community is represented to the fullest extent of the law and hopefully that our community will be made whole again.

If Asarco truly intends to do what is right and necessary I would suggest that we meet to work out a negotiated satisfactory settlement or we have no other choice but to proceed with legal action. We request that you personaally visit Triumph as soon as possible.

I thank you in advance for your immediate response.

DONNA ROSE
Box 3730
Ketchum, Idaho

Ms. FURSE. Mr. Robbins, I have three questions I would like to ask you.

Is Ms. Rose telling the truth when she states that ASARCO is not a good corporate citizen but rather a company which has used the community to ASARCO's advantage politically and a company which is not doing right by the town of Triumph?

That's question number one.

Question number two. In your testimony you support repeal of retroactive liability. You were in operation in Triumph from the late 1800's to 1957. Is it credible given the experience in Triumph where you were out of there after 1957 to oppose retroactive liability prior to 1987? Wouldn't that make Ms. Rose's situation even worse?

The third question is, is Ms. Rose telling the truth when she states that your representatives have publicly stated "ASARCO is not taking responsibility for the site but only sampling and assessing the damage"?

She further states, "ASARCO reps announce they are not taking responsibility for the mine waste pile or the mine draining."

Are her statements accurate? Did your company's representatives take those positions, and if so, why is ASARCO not taking responsibility?

I can repeat the questions, Mr. Robbins. I know it is hard when there are three questions in a line. I would like your answers.

Mr. ROBBINS. In answer to your first question, I believe ASARCO is a good corporate citizen. As I mentioned in my statement, we have a lot of different cleanup sites around the United States because of the nature of our business, the fact that we have been in business for many, many years back into the last century.

What we have found with the present Superfund program is that the reaction of Ms. Rose and the frustration of Ms. Rose is typical of citizens that get caught up in a program that is extended, is uncertain. In the Triumph situation we are presently in the stage where we are evaluating the site to determine what is a reasonable level of cleanup and what could be done.

Ms. FURSE. Is she then credible when she testifies or is she credible when she says in her letter that you are not a good corporate citizen? In other words, we have heard two sides from Ms. Rose. Which would you say was the credible statement?

Mr. ROBBINS. I think she is credible in the statement she gave before the committee and I think the letter she has written is a result of frustration with the process.

Ms. FURSE. With ASARCO?

Mr. ROBBINS. With the process that is going on with the Superfund.

Ms. FURSE. That is not what I gather from the letter.

Go ahead, Mr. Robbins.

Mr. OXLEY. The gentleman may respond. The gentlelady's time has expired.

Mr. ROBBINS. With respect to retroactive liability, my feeling is that ASARCO's situation is much like the one described by the Senator. We have many, many operations that were bought by us, by our founding individuals at the turn of the century. Clearly we had very little to do with the operation, for example, in Triumph, and a lot of the sites we have inherited today. We bought that mining company that owned the Triumph site. Furthermore, we operated that site in compliance with all the rules and best operating technology of the time.

Mr. OXLEY. The gentlelady's time has expired.

Ms. FURSE. Mr. Chairman, I had a third question. Could the witness respond to that, about why they have said publicly that they are not going to take responsibility?

Mr. OXLEY. The gentleman can respond.

Mr. ROBBINS. I have with me this morning counsel Jill Sigal representing ASARCO.

Ms. SIGAL. Congresswoman, if I could answer that question. ASARCO's official position is that it will take responsibility for its share at Triumph, and in a letter dated June 13 to Mr. Oxley and a letter to Mr. Crapo on June 8 we say, "ASARCO is prepared to honor its responsibilities at Triumph and we will seek to ensure that the other entities and individuals who have responsibility in Triumph do the same."

If there was any misunderstanding between people representing ASARCO and Ms. Donna Rose, we apologize for that, but ASARCO's official position is that it will take its share of the responsibility.

Ms. FURSE. So Ms. Rose's letter is inaccurate when she writes and says there was this public statement?

Ms. SIGAL. I can't say that. I could say that there would possibly have been a misunderstanding or a miscommunication, but we have tried to clarify any miscommunication. I was not present at that meeting, but it is ASARCO's official position that it will take responsibility, and if there was some miscommunication, we apologize for that, but Asarco's position stands as I just said.

Mr. OXLEY. The gentlelady's time has expired.

Let the record reflect that EPA, contrary to the indication from the gentlelady from Oregon, was invited. They were participants in a panel in the previous hearing, if the gentlelady would recall.

The gentleman from Idaho, Mr. Crapo.

Mr. CRAPO. Thank you, Mr. Chairman. I appreciate the opportunity. My turn here comes very timely, because the lady that we are discussing who testified, Donna Rose, comes from my district. The particular project at issue is in my district.

I would like to make sure that the record reflects that it is correct that ASARCO has at all times stated that they are going to be sure to take their responsibilities as required under the agree-

ments that have been entered. I don't think there is any question about that.

I have been in contact with Ms. Rose and I have also been in contact with other residents of the town. I can tell you that they are all convinced that we will be much better off if we can move in the direction of letting State and local control over these types of decisions proceed.

In fact, as we heard at the last hearing when this was discussed, this is one of the premier cases, I think, in the country of a circumstance in which if we had more freedom and flexibility in moving to local and private control of these cleanup efforts that we would be much more effective and much better off.

I just want the record to reflect that I have contacted the townspeople knowing that this issue may come up. They very much still agree with the direction that things are headed and want to be sure that we move ahead properly with getting to a point where they don't have to jump through all the hurdles that are required by the Federal regulatory system that is now in place.

I would just ask a question of Ms. Sigal. Following up on the last series of questions, do you have any understanding from any other members of the town that there is any disagreement or misunderstanding on their part about the role that ASARCO is going to play and their satisfaction with the direction that the process has been moving?

Ms. SIGAL. No, Mr. Crapo, we do not. I've been in contact with the ASARCO lawyers who are handling the situation at Triumph. They deal with the townspeople on a daily or weekly basis, and it is my understanding that it is the sentiment of the community of Triumph that they do not want EPA back in, that they would prefer to have the State of Idaho have deferral of the site, and that they are not displeased with ASARCO or the Idaho Department of Lands, which is also another PRP at the site.

Mr. CRAPO. I appreciate that. I just wanted to again say that this has been a very difficult process over the past few years to try to get to this point. One of the things that is critical, in my opinion, is that we make the law more flexible so that we can move to more State and local and private control over these decisions and these cleanup efforts.

If anything, the example at the Triumph mine should be an example in this country of why we need to make the necessary corrections and reaffirmations in our law of the proper role of State and local entities.

Ms. SIGAL. Mr. Crapo, I think the recent communications and letters from Donna Rose to ASARCO exemplify the frustration that local communities have because of the current Superfund program, and ASARCO believes that if the current program is substantially reformed and if it is delegated to the States to run the Federal program we could avoid these problems in the future because the States, as has been mentioned earlier today, have a better understanding and are close to the local Superfund communities.

Mr. CRAPO. Thank you. I have no further questions at this point.

Mr. OXLEY. The gentleman's time has expired.

The gentleman from Michigan, the ranking member of the full committee.

Mr. DINGELL. I thank the chairman.

Mr. Grabinski, it appears that your company has been a good corporate citizen and I want to commend you for that. I want to talk a little bit about the events that were associated with your cleanup of the affected site. I would ask you to agree or disagree with the statements as I am going to read them so that we can proceed within the very narrow time constraints with which we are confronted.

We were, first of all, discussing two different areas, the contaminated 20 acre industrial site and an adjacent residential neighborhood which was affected by the runoff of the industrial site; is that correct?

Mr. GRABINSKI. That's correct.

Mr. DINGELL. The former plant site was contaminated with chromium, arsenic, copper, PCP, PAH's and other chemicals; is that correct?

Mr. GRABINSKI. Not entirely.

Mr. DINGELL. Your company agreed to come forward to do the cleanup, for which I think you are to be commended; is that correct?

Mr. GRABINSKI. That's correct.

Mr. DINGELL. During that time citizens of nearby neighborhoods complained that their property was being affected by chemicals; is that correct?

Mr. GRABINSKI. That's correct.

Mr. DINGELL. The State DEQ told the citizens it would not take any action in the neighborhoods and that the citizens should contact EPA if they felt action was needed; is that correct?

Mr. GRABINSKI. That's not correct.

Mr. DINGELL. Why is it not correct?

Mr. GRABINSKI. The State did take action in those areas. In fact, in their submittal——

Mr. DINGELL. Let's go into the action taken by the State.

Mr. Chairman, at this point I ask that the letter from the State of Louisiana's Attorney General be inserted in the record in the appropriate place and fashion. [See p. 182.]

Mr. OXLEY. Without objection.

Mr. TAUZIN. Will the gentleman yield? Are you speaking of the letter of March 17?

Mr. DINGELL. I only have 5 minutes. I have to proceed with all speed. I will be delighted to ask additional time.

Mr. TAUZIN. I just want to know what letter is going in, Mr. Chairman.

Mr. DINGELL. The letter comes from the State of Louisiana Department of Justice, signed by Mr. William J. Guste, Jr., Attorney General. I'll be glad to make it available to the gentleman.

The letter, written before EPA was asked to get involved, describes citizen complaints raising "some very disturbing questions about the procedures that have apparently been used by the Department of Environmental Quality employees who test for contamination and conclusions that have been made by smelling and looking at the soil samples."

It concludes by saying, "the recent disclosure that the post-cleanup testing was never conducted at the residential area raises seri-

ous questions about the adequacy of all waste site evaluations and cleanups" and asking the secretary to "give this matter your immediate attention."

The State DEQ refused to get involved in the residential site and in fact made public statements that the neighborhood was not contaminated.

Is that correct?

Mr. GRABINSKI. I'm not familiar with that letter, Congressman.

Mr. DINGELL. EPA conducted tests in the neighborhood which your company criticized. Then your company conducted its own tests and found contamination; is that correct?

Mr. GRABINSKI. Residual levels, yes.

Mr. DINGELL. Based on your own tests, it's fair to say that the residential area is a hot spot that contains the chemicals present at the wood treatment site; is that not so?

Mr. GRABINSKI. I would not agree with that.

Mr. DINGELL. I ask unanimous consent then, Mr. Chairman, to have the engineering evaluation cost analysis memorandum to Sam Becker, Chief of Superfund Enforcement Branch, Region 6, admitted into the record. [See p. 195.]

Mr. OXLEY. Without objection.

Mr. DINGELL. The memorandum details the threats to public health, welfare and environment in the residential area, and it notes this: "The neighborhood bordering the wood treatment plant area on the north and the west is currently occupied by a large number of residents. There are approximately 1,600 people living within one quarter of a mile radius of the wood treatment plant."

It goes on to state, "Humans living in the residential area are exposed to metals, semi-volatile organic compounds, including benzopyrene, PAH's, PCP, chromium, arsenic, and copper from the plant through the dermal contact with the soils containing these materials and through incidental ingestion of soils containing these materials. The residential neighborhoods to the north and west have been inundated by flood events on several occasions."

Is that right, Mr. Grabinski? There have been floods down there?

Mr. GRABINSKI. I'm not aware of any.

Mr. DINGELL. This is Louisiana. One should anticipate flooding in Louisiana.

Mr. GRABINSKI. There may have been.

Mr. DINGELL. "On each occasion flood waters have carried hazardous substances, including PAH's, PCP, chromium, copper, and arsenic from the wood treatment plant area to the residential yards." EPA's subsequent analysis—and this is based on your company's sampling—found a lifetime cancer risk of 1 in 250 for the ditch and the residential area.

Is that correct?

Mr. GRABINSKI. I'm not sure. I don't remember.

Mr. DINGELL. Would you state that that is not so?

Mr. GRABINSKI. We found residual levels in that area. I would agree with that.

Mr. DINGELL. You make the statement that EPA and the State are duplicating efforts. But is it not true that EPA became involved only at the residential site after the State DEQ made it clear they would not act?

Mr. GRABINSKI. Not correct.

Mr. DINGELL. That is not correct?

Mr. GRABINSKI. That's not correct.

Mr. DINGELL. Would you say that it is true or not true that EPA involvement has been limited solely to the residential site and not to the old wood treatment site?

Mr. GRABINSKI. Up until now, but the site as it is drawn includes the site property itself.

Mr. DINGELL. Your written statement makes this statement. It says, "Increasing State involvement in Superfund is not enough. State authority has to be absolute."

If the facts justify the belief that in the instance of this matter that we are now discussing the State refused to take action, did not identify fully the level of contamination, and the EPA was called in by citizens, would you say that your statement that State action should be absolute and that EPA should be walled out is a valid one?

Mr. OXLEY. The gentleman's time has expired.

The gentleman may respond.

Mr. GRABINSKI. In this particular case I would. I am not familiar with the letter from Mr. Guste that you spoke of.

Mr. DINGELL. I'll see that copies are made available to you.

Mr. GRABINSKI. I do have a letter attached to my testimony from the Secretary of the Louisiana Department of Environmental Quality submitted during the public comment period on the NPL listing. If I could just read one quote from this letter.

"In several separate sampling efforts, DEQ previously investigated the offsite locations that might have been contaminated by Lincoln Creosote site activities. DEQ did not find significant contamination and was prepared to declare the site activity completed."

My understanding, Congressman, is they did sample and they did not find significant levels of contamination.

Mr. OXLEY. The gentleman's time has expired.

Mr. DINGELL. Mr. Chairman, could I make a unanimous consent request? I would ask that the risk tables from EPA's risk analysis dated December 28, 1994, and revised March 3, 1995, be admitted into the record at this point. [See p. 201.]

I would also note that the analysis is based on Joslyn's samples and concludes that there is a 1 in 250 lifetime cancer risk at the residential site.

Mr. OXLEY. Without objection, so ordered.

Mr. DINGELL. I thank you, Mr. Chairman.

[The documents referred to follow:]

State of Louisiana
DEPARTMENT OF JUSTICE
Baton Rouge
70804

WILLIAM J GUSTE JR
ATTORNEY GENERAL

May 15, 1991

SUPERFUND
FILE

MAY 07 1992

REORGANIZER

Paul Templet, Ph.D.
Secretary
Department of Environmental Quality
Office of the Secretary
P.O. Box 82263
Baton Rouge, Louisiana 70884-2263

Dear Dr. Templet:

The enclosed letter from Mrs. Daisey Bedingfield raises some very disturbing questions about procedures that have apparently been used by some Department of Environmental Quality employees who test for contamination and conclusions that have been drawn by smelling and looking at soil samples.

Mrs. Bedingfield lives near the old Lincoln Creosote wood treating facility in Bossier City. According to local residents, when the creosote plant was operating, waste creosote often flowed into the drainage ditch next to the facility. Frequently the small drainage ditch would clog up and the waste creosote would flow across a low area to another drainage ditch. This low area was filled in by a local developer and houses were eventually build here. Mrs. Bedingfield lives in one of those houses.

Last year two Shreveport Times reporters wrote several articles about Lincoln Creosote and the nearby residents concerns about off site contamination and health problems according to a Times article on May 6, 1990:

> DEQ came to Bossier in early March to take soil samples, but heavy rains clogged their machines. It wasn't until April that they returned. And again, it rained.
>
> "We are still going to do it," said Harold Etheridge, acting head of the Department of Environmental Quality's Inactive and Abandoned Hazardous Waste Sites. "It just rained us out again."

Nothing happened and the concerned citizens contacted my office. William Fontenot of my staff and Wilma Subra, a member of the DEQ citizen's advisory committee, visited with Mrs. Bedingfield and some of her neighbors. They did some soil corings in several yards and apparently found what appeared to be black material which was not present in uncontaminated areas. The black material ranged in size from small specks to fist size chunks. Some of the soil appeared to be free of any contamination. They concluded that this black material was probably creosote residue and that the residents should contact the DEQ for further evaluation.

Mrs. Bedingfield wrote in her letter:

> "When the man form DEQ came to test my yard last fall, he shook the soil from the pipe he used to dig down in (the) ground and asked me and my neighbor, Mrs. Johnson, to smell it. When we did, he asked us if we smelled anything and we both said no. Then he said if we didn't smell or see any creosote particles in the soil then we were not contaminated. He said that I had nothing to worry about."

Apparently several weeks later a chemist for a law firm which represents clients in ongoing litigation sampled Mrs. Bedingfield's yard. According to Dr. Donald D. Rosebrook of EndoEnvironment, Inc.:

> "The (soil) sample was extracted with a chlorinated solvent and gave a black solution. That was a clue that the sample probably contained tarry substances, even though the sample had no odor and you couldn't see any obvious organic materials. When the laboratory analyzed the solution, they found that it contained several polynuclear aromatic hydrocarbons, so many in fact that they didn't even try to identify them all. These chemicals, polynuclear aromatic hydrocarbons, are proof that creosote came on to your property, unless of course you deliberately poured a similar waste product out into your back yard."

Dr. Rosebrook advised Mrs. Bedingfield that because of the toxicity of the chemicals present, she should avoid skin contact with the soil in her yard. Needless to say, Mrs. Bedingfield is very upset and she wants some answers.

The recent disclosure that post cleanup testing was never conducted at the dump site near Tate Cove and Mrs. Bedingfield's story raise serious questions about the adequacy of all waste site evaluations and cleanups.

I urge you to give this matter your immediate attention. I will be glad to assist you in this effort.

Sincerely,

WILLIAM J. GUSTE, JR.
Attorney General

Kincaid Creosote SUPERFUND 5-13-91 LAD 981060429

MAY 07 1992

REORGANIZED

Dear Bill:

Sorry again to be late with this, but the rain has started again here & I've been frightened that I may go under water again. Everything in the house is up on cinder blocks & the weather has been such that no work can get started yet on inside of house. (Repairing of walls, painting, etc.) At least it'd clean!

When the man from DEQ came to test my yard last fall, he shook the soil from the pipe he used to dig down in ground & asked me & my neighbor, Mrs. Johnson, to smell it. When we did, he asked us if we smelled anything & we both said no. Then he said if we didn't smell anything or see any creosote particles in the soil, then we were not contaminated. He said that I had nothing to worry about. I was very relieved & happy to say the least!

Then the chemist ~~with~~ doing the work for the attorneys in Baton Rouge came several weeks later & asked my permission to take tests in my yard. He did and I receive the enclosed letter last month. This has been a horrible blow to me & just about a week later, I got 9" of flood water in my house which stayed all day long & did not start draining until 6:00 pm that evening. So I guess I've received God knows what else in the contamination process from the site above me on Montgomery Lane. They say we took flood water from 8 blocks around us.

Since receiving the enclosed letter, I have not heard one word from anyone at all concerning my situation. It's just like

(over)

8/19

saying, "Greetings, your property is contaminated Mrs. Beding-Fiel, + its really been nice knowing you"! Absolutely no one has called me or contacted me in anyway whatsoever.

I am now becoming very angry + so far (between these heavy rains) I have contacted the Director of Shreveport-Bossier Health Unit, Shreveport HUD Dept., Mayor George Dement of Bossier, and you. I am going to find out just who's going on here if I die with a stroke I will contact the White House if I have to. I am calling Buddy Roemer before contacting the federal authorities. Buddy has helped[d] in the past + got the drainage problem tended to on this street for me - when he was in Congress.

I am not stopping[4] this, if I have to end up contacting Reside Buck - And this I mean -

None of my neighbors know anything about this (except Mrs. Johnson) because I don't want a panic taking place. I don't want any publicity about this until I know everything there is to know + exactly where I stand + who is responsible.

I also need to know the quantity of contamination I have.

Hope to hear from you + hope you can help me in some way.

Thank you Bill, for your kindness + at least trying to be helpful -

Sincerely

Mrs. Daisy Beding-Field

P.S. The young man with the man from DEQ is the monk on attached card. 9/19

TODD THIBODEAUX
Toxicologist
Department of Environmental Quality
Office of Legal Affairs and Enforcement

Inactive and Abandoned Sites Division
Post Office Box 44066 - Capitol Station
Baton Rouge, Louisiana 70804 (504) 342-9828

Lincoln Creosote
Lad 981 060 429

SUPERFUND
FILE

MAY 07 1992

REORGANIZED

Mr. Gleason's # - 226-5385

4-30-91 Called HUD about problems. Talked to Mr. Gleason who is over HUD-FHA in Shreveport on 5-1-91. He was unaware of the situation concerning the Lincoln Creosote Waste site. He was very appreciative of my call & said he would contact Regional Headquarters to check this with them.

Northpark Apartments
Montgomery Lane B.C.

These apartments are across the street from contaminated site & are being supplemented by HUD.

I talked with several of the older occupants of these apartments & told them to let me know if any cleanup work is done on the site.

Ms. Sheila Granville
Apt. 10K 747-1165

SUPERFUND FILE
MAY 07 1992
REORGANIZED

Ms. Jerline Smith
Apt. 3A 747-5665

Also Ms. Gloria Green

///

4-30-91 Called Willie Fontenot in Baton Rouge. He called me back & situation was discussed. I will make copies of letters from chemist & testing lab. & send him.
William Fontenot
227-3790 Call & ask to be transferred to Willie in B.R. with Atty. General's Office.

SUPERFUND FILE

MAY 07 1992

REORGANIZED

Mail - Mr. William Fontenot
Environmental Specialist
Bud 94095 ← Attorney General's Office
Baton Rouge, La. 70804

4-30-91 Called Billy Gaines (Head of Bossier & Caddo Health Units) about contamination problem. He advised calling Buddy Roemer so he could get with DEQ & then Health Dept. could do something.
(236-7489 State Office Bldg.)

4-30-91 Called Mayor George Dement about problem. He is coming to house later this afternoon.

12/1.9

5-1-91 Mayor Dement did not come out. Have not heard from him. Home: 222-5842

5-3-91 Mailed contamination info. to ~~Bill~~ Willie Fontenot in Baton Rouge.

5-4-91 Contacted State Rep. Alphonse Jackson (#635-3813) today. Informed him of problem. Told him of little black families across street from this Lagardere site, some children with sores on their bodies, etc., hoping maybe he could help in some way, especially with HUD. He will contact Buddy Roemer & see if Buddy could call me & save me money on call (which I don't have). He said if Roemer did not call to use these two numbers.

Governor's Mansion - (504) 342-5855
State Capitol - (504) 342-7015

5-7-91 Called Mr. Ray (Head of State Highway Dept. in Bossier Parish). Informed him of all the debris that is half blocking the exit of water from concrete ditch across the street. This drainage goes under Airline Drive [illegible] 17/a

contamination problem & would he please clean this out to avoid any blockage of water. He said he would see about this today.

5-7-91 Called Shreveport HUD for Mr. Gleason & he was out with Federal HUD officials checking on flood areas.

5-9-91 Talked to Dr. Joe Manno (~~Toxicologist~~ Toxicologist at LSU Medical Center). phone # 674-7804 or 674-7800. He said yes that these chemicals are toxic to the skin & could cause skin cancer along with other types of cancer. However, it all depends on the amount of contamination I have, which was not specified in the report. He explained a lot to me & we talked about 45 minutes. He thinks it is absolutely astonishing that no officials are following up on this potentially dangerous situation. Particularly due to flooding from site.

14/19

5-9-91 Mr. Gleason with HUD-FHA called me today. In a meeting yesterday, he said he gave his card to a federal EPA agent to call him. Mr. Gleason said that I need to get in touch with the federal EPA about this situation. Also inform Congressman Mc Crery + Senator Johnston. He gave me the following address + phone # for EPA.

Allyn Davis, Director
Hazardous Waste Management Div
6 H
1445 Ross Avenue
Dallas, Texas 75202-2733

Phone: (not toll free) (214) 655-6700.

I find it personally hard to believe that HUD would fund money to an apartment complex that is practically on top of a hazardous waste site.

5-9-91 Jacked with Willie Fontenot today + he said me a 2-page letter that he is sending to Director of DEQ stating information of their

not smell creosote or see any flecks of it in dirt, then I was not contaminated. He is asking that action be taken on this situation. He will send me a copy of his letter.

5-15-91 Called Bossier City Attorney (Mr. Hall) 741-8515 + informed him of my contamination, etc. He is going to supply me with the names of all companies involved in the waste site. He is also going to talk with Mayor Dement about this problem, he said.

5-17-91 Called Sammy Craft, City Engineer, about problem - 741-8568. He told me ~~[illegible]~~ they are going to put a huge drainpipe under Airline Drive + hope this will alleviate flooding. Also they are checking on some firms in Baton Rouge + New Orleans that treat houses with something that makes them completely flood proof. Ties the doors. Where the water cannot take in.

6/19

5-17-91 Called Federal EPA Director in Dallas today. He is out of office all day but explained a small amount of information to person taking message & was told this was a very important situation & that the Director would be calling me Monday for all the information.

5-17-91 Called Governor Romer's office & was told his personal Aide on Environmental Problems would call me back this afternoon & he would relay this info.

5-17-91 Mr. Jim Hardy, personal aide on E.P. in Governor office returned my call. He was in a hurry for another meeting, so only had time to give ~~me~~ him summary of info. & about letter from chemist. He said he would have Harold Ethridge of DEQ call me Monday. If he does not call by noon on Monday, I am to let Mr. Hardy know this. ~~(illegible)~~ (504) 342-7015.

5-17-91 Harold Ethridge called me about 45 minutes after I spoke with Mr. Hardy. Throughout conversation, he still wanted to try & make his point that I did not have a situation to worry about. He said he could not dig up dirt of Bossier City for creosote. I told him he was getting in left field & all I was asking for was concrete info.

as to the status of my property also. He asked me what I wanted him to do, & I told him to test my yard, so he could put his money where his mouth was. Then I would know definitely where I stand. I also told him that I had a call in to Fed. EPA in Dallas. He made the remark that I probably wouldn't hear from this call.

5-20-91 Mr. Bill Taylor, Chief of Superfund Site Assessment in Dallas, Texas (Federal EPA) called me today. We discussed my situation & he asked me to send him all the info. I had. He will get back in touch with me. Thank God for my federal gov't. 101

5-21-91 Harold Etheridge called me between 7:30 & 7:45 AM this morning. Wanted to know if EPA contacted me! I told him yes. I could tell he was a little nervous. I told him EPA was interested in my problem & it would be awhile before I would know anything. I'm sending them info. He said he would call me back Friday - to see if I knew anything yet. They interested all of a sudden. Even asked me to take care of myself!

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 6
1445 ROSS AVENUE, SUITE 1200
DALLAS, TX 75202-2733

MEMORANDUM

SUBJECT: ENGINEERING EVALUATION/COST ANALYSIS MEMORANDUM for the Lincoln Creosote Company Site, Bossier Parish, Bossier City, Louisiana

FROM: Sam Becker, Chief
Superfund Enforcement Branch (6H-E)

Charles Gazda, Chief
Emergency Response Branch (6E-E)

TO: Allyn M. Davis, Director
Hazardous Waste Management Division (6H)

Russell P. Rhoades, Director
Environmental Services Division (6E)

PURPOSE:

Pursuant to Subsection 104(b)(1) of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), as amended, 42 U.S.C. § 9604(b)(1) and 40 CFR § 300.415(b)(4) of the National Oil and Hazardous Substances Contingency Plan (NCP), this memorandum is to request your approval to conduct an Engineering Evaluation/Cost Analysis (EE/CA) as part of a Non-time- Critical Removal Action. The EE/CA will help determine the selection of a feasible and cost effective non-time-critical removal action remedy at the Lincoln Creosote Company Site (the "Site"). The Site is located along Montgomery Street, near the intersection of Benton Road and the Kansas City South Railroad, north of Interstate Highway 20 in Bossier City, Bossier Parish, Louisiana. At this time we anticipate that the EE/CA may be conducted by potentially responsible parties (PRPs).

JURISDICTION

Authority vested in the President of the United States by Sections 104, and 106(a) of CERCLA has been delegated to the Administrator of the U.S. Environmental Protection Agency ("EPA") by Executive Order No. 12580, 52 Fed. Reg. 2923 (January 23, 1987). CERCLA Subsection 104(b) investigative authority, including the authority to authorize an EE/CA, has been delegated to the Regional Administrator, EPA Region 6, by EPA Delegation 14-8-A, and redelegated to the Environmental Services Division Director and the Hazardous Waste Management Division Director by

Region 6 Delegation R6-14-8-A. The authority to make a determination of Imminent and Substantial Endangerment under CERCLA Section 106 was delegated to the Regional Administrator, Region 6, by Delegation 14-14-A, and Redelegated to Environmental Services Director and the Hazardous Waste Management Division Director by Delegation R6-14-14-A.

BACKGROUND:

The Lincoln Creosote Company Site includes 20 acres of industrial area surrounding a former wood treatment plant, and also includes an undefined portion of the adjacent residential neighborhood which has been affected by stormwater runoff from the wood treatment plant. The Site is located on Montgomery Road near its intersection with Benton Road in Bossier City, Bossier Parish, Louisiana. The Site is described in the attached map (Attachment 1) which is incorporated herein by reference. The wood treatment plant on the Site was operated by the Lincoln Creosote Company and, subsequently, the Joslyn Manufacturing and Supply Company as a wood treatment plant from 1935 through 1969. Operation consisted of pressure treating railroad ties and telephone poles using creosote, chromated copper arsenate, and pentachlorophenol (PCP).

From April 26 through May 2, 1992, EPA took soil samples in the residential area which is part of the Site. Sample analysis determined that there were concentrations of certain semi-volatile organic compounds (including polynuclear aromatic hydrocarbons (PAHs)), PCP, and metals in soil samples collected from the residential area. Concentrations of semi-volatile organic compounds found in soil in the residential area, which borders the wood treatment plant on the north and on the west, ranged from 19 micrograms per kilogram (µg/kg) to 700,000 µg/kg. Benzo(a)pyrene was generally detected in concentrations ranging from 64 to 270,000 µg/kg in the soil samples where semi-volatile organic compounds were detected. Metals concentrations exceeding three times the metals detected in background soil samples were also detected in the soils in the residential area which borders the wood treatment plant on north and on the west. Metals, which exceeded three times the background metals detected in the soils include arsenic and copper. The substances found in these soils, PAHs, PCP, arsenic, copper, and chromium, are all typically found at wood treatment sites using creosote, pentachlorophenol, or chromated copper arsenate wood treatment processes. The wood treatment plant at the Site used all three wood treatment processes at some time during the operation of the plant. Therefore, it is clear that these materials, benzo(a)pyrene, PAHs, PCP, chromium, arsenic, and copper, which are CERCLA hazardous substances, have been discharged, or have escaped from the wood treatment plant area on the Site.

Based upon analysis of the April 26 through May 2, 1992, sampling, it is certain that metals, and semi-volatile organic compounds, including but not limited to, benzo(a)pyrene, PAHs, PCP, chromium, copper and arsenic, have been discharged or have escaped from the wood treatment plant to residential yards in the residential area which borders the wood treatment plant on the north and on the west. Humans living in the residential area are exposed to these metals and semi-volatile organic compounds, including benzo(a)pyrene, PAHs, PCP, chromium, arsenic, and copper, from the plant through dermal contact with soils containing these materials, and through incidental ingestion of soils containing these materials.

THREATS TO PUBLIC HEALTH, WELFARE, OR THE ENVIRONMENT

Many homes were built upon an old drainage pathway, draining away from the wood treatment plant area on the Site. Sampling in the drainage pathway has shown contamination from semi-volatile organic compounds (including PAHs), PCP, and metals including arsenic, chromium, and copper in the residential yards.

Semi-volatile organic compounds or PAHs, from creosote, which is a complex mixture of chemicals, are believed to be the primary threat to public health and welfare at and near the Site. Available literature on PAHs reveal that numerous PAHs, including those identified in the residential yards at the Site, are possible human carcinogens. Reports indicate that long-term inhalation and dermal contact with PAHs in mixtures with other compounds can result in cancer in humans. PAHs have caused tumors in laboratory animals through inhalation, oral, and dermal exposures. In addition, animal studies have revealed that developmental, reproductive, and immunosuppression health effects have occurred with exposure to PAHs through the various exposure routes. In addition, exposure to creosote can cause adverse effects to the skin, nervous system and kidneys.

PCP is also a contaminant of concern at the Site. PCP is a threat to public health and welfare at and near the Site. Long-term exposure to low levels of PCP can cause adverse effects to liver, kidney and nervous system. PCP is considered to be a probable human carcinogen.

Arsenic is a metal which is a contaminant of concern at the Site. Arsenic is a threat to public health and welfare at and near the Site. Exposure to arsenic can cause adverse health effects such as hyperpigmentation and keratosis of the skin and vascular changes. Arsenic is considered to be a known human carcinogen by the inhalation route.

Chromium is also a contaminant of concern at the Site. Chromium is a threat to public health and welfare at and near the

Site. Chromium is an element that can be found in the environment in three forms: chromium(0), chromium (III) and chromium (VI). Chromium (VI) is the most toxic form of chromium and can cause adverse effects to the kidney and liver. Chromium (VI) also is considered to be a known human carcinogen by the inhalation route. Chromium (III) is considered to be an essential element; however, exposure to high concentrations of chromium (III) can cause adverse health effects.

Copper is also a contaminant of concern at the Site. Copper is considered a threat to public health and the environment at and near the Site. Copper is an essential element necessary for good health; however, long term exposure to high levels of copper can cause liver and kidney damage. Copper also can cause adverse effects to the environment. Low concentrations of copper in the water can cause adverse effects to aquatic life.

If no action is taken at the Site, the conditions will continue to exist and the residents in the neighborhood downstream from the wood treatment plant area on the Site will continue to be in direct contact with hazardous substances located within the residential yards.

Section 300.415 of the NCP,, 40 CFR § 300.415, lists the factors to be considered in determining the appropriateness of a Removal Action. The following paragraphs of Section 300.415 of the NCP apply to the Lincoln Creosote site:

A. Section 300.415(b)(2)(i) - "Actual or potential exposure to nearby human populations, animals, or the food chain from hazardous substances or pollutants or contaminants."

The neighborhood bordering the wood treatment plant area on the north and west is currently occupied by a large number of residents. There are approximately 1600 people living within a 1/4 mile radius of the wood treatment plant. Contamination from metals and PAHs has been found in residential yards at depths of less than two feet within the 1/4 mile radius of the wood treatment plant area.

Concentrations of semi-volatile organic compounds or PAHs found in soil in the residential area, which borders the wood treatment plant on the north and on the west, ranged from 19 µg/kg to 700,000 µg/kg. Benzo(a)pyrene was generally detected in concentrations ranging from 64 to 270,000 µg/kg in the soil samples where semi-volatile organic compounds were detected. Metals concentrations exceeding three times the metals detected in background soil samples were also detected in the soils in the residential area which borders the wood treatment plant on north and on the west. Metals, which exceeded three times the background metals detected in the soils include arsenic and

copper, which are present in a wood treating facility using the chromated copper arsenate treatment process.

B. Section 300.415(b)(2)(iv) - "High levels of hazardous substances or pollutants or contaminants in soils largely at or near the surface, that may migrate."

The contamination in the neighborhood surrounding the wood treatment plant, which was documented in the Expanded Site Investigation report completed in 1992, is located within two feet of the surface and in residential yards near the wood treatment plant. Residents have stated that, in many cases, they cannot dig a garden without encountering material which appears to be weathered creosote.

Concentrations of semi-volatile organic compounds, as are found in creosote, found in soil in the residential area, which borders the wood treatment plant on the north and on the west, ranged from 19 µg/kg to 700,000 µg/kg. Benzo(a)pyrene was generally detected in concentrations ranging from 64 to 270,000 µg/kg in the soil samples where semi-volatile organic compounds were detected. Metals concentrations exceeding three times the metals detected in background soil samples were also detected in the soils in the residential area which borders the wood treatment plant on north and on the west. Metals, which exceeded three times the background metals detected in the soils include arsenic and copper, which are present in a wood treating facility using the chromated copper arsenate treatment process.

C. Section 300.415 (b)(2)(v) - "Weather conditions that may cause hazardous substances of pollutants or contaminants to migrate or be released."

The residential neighborhood on the north and west has been inundated by flood events on several occasions. On each occasion, the flood waters have carried hazardous substances including PAHs (including but not limited to benzo(a)pyrene), PCP, chromium, copper and arsenic from the wood treatment plant area to the residential yards.

ENDANGERMENT DETERMINATION

Actual or threatened releases of hazardous substances from this Site, if not addressed by a response action, may present an imminent and substantial endangerment to public health, or welfare, or the environment.

ENFORCEMENT ACTIONS

During 1992, Joslyn Manufacturing Co., under the oversight and authority of the Louisiana Department of Environmental Quality, performed an extensive removal action on the portion of the Site occupied by the wood treatment plant. EPA has performed a PRP search to determine the identities of the former owners and operators of the Site. EPA is currently reviewing that information and will issue special notice letters informing PRPs of their potential liabilities associated with the site, and giving the PRPs an opportunity to negotiate a settlement providing for the PRPs to conduct or finance the proposed EE/CA and the subsequent non-time critical removal action.

PROPOSED PROJECT AND COSTS

The EE/CA project will involve the conduct of field engineering investigations to determine the extent of contamination in the residential neighborhood. The EE/CA will evaluate the removal of contaminated soil from the neighborhood downstream from the wood treatment plant area, and will incorporate an aggressive community relations effort.

Due to the interest and expected participation of the PRPs in the EE/CA and removal action under an Administrative Order on Consent (AOC), the only funding requested at this time is for oversight of the removal action. Those costs should be fully recoverable under the AOC. Oversight costs for the EE/CA and the removal action are expected to be approximately $40,000.00, if performed by EPA personnel. If, for some unexpected reason, the PRPs do not conduct the EE/CA, then EPA will incur the cost of the EE/CA and the resulting removal action, which is estimated to be $1,800,000.00.

The project will involve the full integration of Removal and Remedial elements, consistent with recent Headquarters guidance. By this approach, any data gathering and evaluation will accommodate the needs of the Removal, the Pre-Remedial, and the Remedial programs' needs, respectively. The ultimate Non-Time-Critical Removal Action addressing the contaminated soils in the neighborhood will be thorough, and the cleanup standards will be risk-based and consistent with Remedial program standards.

CONCLUSIONS

Conditions at the Site meet the 40 CFR § 300.415(b)(2) criteria for the initiation of a removal action at the site. Furthermore, a planning period in excess of six months exists, and therefore, pursuant to 40 CFR § 300.415(b)(4)(i), the conduct of an EE/CA for a Non Time-Critical Removal Action is appropriate.

APPROVAL

You may indicate your approval by signing below:

HAB for A. Davis 8/2/95

Allyn M. Davis, Director
Hazardous Waste Management
Division (6H)

Date 8/11/95

Russell F. Rhoades, Director
Environmental Services
Division (6E)

Date 8/22/95

Attachment

Final
Engineering Evaluation and Cost Analysis Removal Action for Offsite Areas

Lincoln Creosote Site
Bossier City, Louisiana

December 28, 1994
Revised March 3, 1995
W. O. #172-08

EPA's Streamlined Risk Evaluation
Appendix C

ERM-SOUTHWEST, INC.
3501 N. Causeway Boulevard, Suite 200
Metairie, Louisiana 70002
(504) 831-6700

ERM

Table 4. Risk estimates: potential noncarcinogenic effects from the oral exposure pathway.

Chemical	Chronic Daily Intake - CTE[a]	Chronic Daily Intake - RME[b]	Chemical-specific risk for CTE	Chemical-specific risk for RME
Acenaphthene	2.2E-6	4.3E-6	4×10^{-6}	7×10^{-6}
Fluorene	1.9E-6	3.8E-6	5×10^{-6}	9×10^{-6}
Anthracene	9.9E-6	1.9E-5	3×10^{-5}	6×10^{-5}
Fluoranthene	8.4E-5	1.6E-4	2×10^{-5}	4×10^{-5}
Pyrene	2.6E-4	5.0E-4	9×10^{-6}	2×10^{-2}
Total Pathway Risk			1×10^{-2}	2×10^{-2}

Table 5. Risk estimates: potential carcinogenic effects from the oral exposure pathway.

Chemical	Chronic Daily Intake - CTE[a]	Chronic Daily Intake - RME[b]	Chemical-specific risk for CTE	Chemical-specific risk for RME
Carbazole	3.6E-7	2.3E-6	7×10^{-9}	5×10^{-8}
Benzo(a)anthracene	1.2E-5	7.4E-5	8×10^{-6}	5×10^{-5}
Chrysene	6.0E-5	3.8E-4	4×10^{-6}	3×10^{-5}
Benzo(b)fluoranthene	8.1E-5	5.2E-4	6×10^{-5}	4×10^{-4}
Benzo(k)fluoranthene	3.3E-5	2.1E-4	2×10^{-5}	2×10^{-4}
Benzo(a)pyrene	4.3E-5	2.7E-4	3×10^{-4}	2×10^{-3}
Indeno(1,2,3-cd) pyrene	2.8E-5	1.8E-4	2×10^{-5}	1×10^{-4}
Dibenzo(a,h) anthracene	1.2E-5	7.8E-5	9×10^{-5}	6×10^{-4}
Total Pathway Risk			5×10^{-4}	3×10^{-3}

Table 6. Risk estimates: potential noncarcinogenic effects from the dermal exposure pathway.

Chemical	Chronic Daily Intake - CTE[a]	Chronic Daily Intake - RME[b]	Chemical-specific risk for CTE	Chemical-specific risk for RME
Acenaphthene	1.9E-7	9.0E-7	3×10^{-6}	2×10^{-5}
Fluorene	1.6E-7	8.0E-7	4×10^{-6}	2×10^{-5}
Anthracene	8.3E-7	4.1E-6	3×10^{-6}	1×10^{-5}
Fluoranthene	7.1E-6	3.5E-5	2×10^{-4}	9×10^{-4}
Pyrene	2.2E-5	1.0E-4	7×10^{-4}	4×10^{-3}
Total Pathway Risk			9×10^{-4}	4×10^{-3}

Table 7. Risk estimates: potential carcinogenic effects from the dermal exposure pathway.

Chemical	Chronic Daily Intake - CTE[a]	Chronic Daily Intake - RME[b]	Chemical-specific risk for CTE	Chemical-specific risk for RME
Carbazole	2.9E-8	4.8E-7	6×10^{-10}	1×10^{-8}
Benzo(a)anthracene	9.3E-7	1.5E-5	7×10^{-7}	1×10^{-5}
Chrysene	4.8E-6	7.9E-5	4×10^{-7}	6×10^{-6}
Benzo(b)fluoranthene	6.5E-6	1.1E-4	5×10^{-6}	8×10^{-5}
Benzo(k)fluoranthene	2.6E-6	4.3E-5	2×10^{-6}	3×10^{-5}
Benzo(a)pyrene	3.4E-6	5.6E-5	3×10^{-5}	4×10^{-4}
Indeno(1,2,3-cd) pyrene	2.2E-6	3.6E-5	2×10^{-6}	3×10^{-5}
Dibenzo(a,h) anthracene	9.8E-7	1.6E-5	7×10^{-6}	1×10^{-4}
Total Pathway Risk			4×10^{-5}	7×10^{-4}

Table 8. Risk estimates: potential noncarcinogenic effects and carcinogenic effects from the oral and the dermal exposure pathway.

Pathway-specific risk	Noncarcinogenic Effects - Central Tendency Exposure	Noncarcinogenic Effects - Reasonable Maximum Exposure	Carcinogenic Effects - Central Tendency Exposure	Carcinogenic Effects - Reasonable Maximum Exposure
Oral	1×10^{-2}	2×10^{-2}	5×10^{-4}	3×10^{-3}
Dermal	9×10^{-4}	4×10^{-3}	4×10^{-5}	7×10^{-4}
Total Risk	1×10^{-2}	2×10^{-2}	5×10^{-4}	4×10^{-3}

Notes:

Central Tendency Exposure

Reasonable Maximum Exposure

Mr. OXLEY. The gentleman from New York, Mr. Frisa.

Mr. FRISA. No questions, Mr. Chairman.

Mr. OXLEY. The gentleman from Michigan, Mr. Upton.

Mr. UPTON. Thank you, Mr. Chairman.

Thank you, panel, for your testimony. As we look at the Superfund issue there are a couple things that I am very hopeful will be included in the bill. I'm sorry that Senator Inhofe had to leave, because I was going to inquire with him in terms of where they were in the Senate.

Two things that I have lent my name to in leadership on a bipartisan basis are these.

One, to end the joint and several approach in terms of liability and instead make it proportional. If you are responsible for 5 percent of the problem, you ought to pay about 5 percent of the solution.

The other one still keeps the polluter pay principle but that innocent lenders as well as parties to a situation would in fact be held harmless if they could prove that they were not part of the problem.

I would like each of you on the panel to go through, maybe starting with Mr. Robbins, in terms of where you stand on these two approaches and whether you think they should be included in the bill as we begin this process through the subcommittee.

Mr. ROBBINS. Looking at many of our sites, like a lot of companies we don't have a lot of sites where there are a lot of other PRP's. As I mentioned in my testimony, we have survived since the last century. We are the only player left. But yet when we operated that facility which may have been shut down in 1908, we are the last entity left. So our proposal basically hinges on reform of Superfund that would roll back joint and several liability prior to January 1, 1987. We think that is the way to go.

We do think that with the money in the Superfund available to the States that good decisions can be made not only on how that money is spent, but also on setting priorities, because we see the way the system is set up right now that there doesn't seem to be a clear idea of the priorities that are out there from State to State to State and where the fund money is being spent.

Mr. UPTON. Mr. Grabinski.

Mr. GRABINSKI. I would agree with Mr. Robbins' characterizations. Joslyn's problems with the wood preserving contamination all arise from pre-1980 activities. In fact, I have spoken with Senator Inhofe regarding a situation in Oklahoma where we sold a facility in 1955. That's 40 years ago. Of course, naturally no other viable PRP's are present that we have found thus far. With retroactive and joint and several liability we are looking at a serious financial implication to the company. The fact that we are still around after 93 years, Superfund tends to penalize us for our success, because we are the only one left and we have to pay the whole bill.

In both of those aspects I would agree with Mr. Robbins.

Mr. UPTON. Mr. Porter.

Mr. PORTER. Congressman, let me approach 2 or 3 things.

First off, with respect to innocent parties, people who did not contribute anything to the site, with respect to lenders, people

whose only sin was to lend money with respect to the site, with respect to de minimis or small contributors, I think for all those situations the presumption in the new law ought to be changed to innocent until proven guilty as opposed to guilty until proved innocent. The way the law reads now—and I struggled with this mightily when I was at EPA—the presumption is that you are guilty and then you've got to prove yourself innocent.

I think we spent an inordinate amount of time with truly innocent parties, truly de minimis folks and lenders who really had nothing to do with the problem. So I would agree with you. That needs to be dealt with and taken out.

With respect to joint and several liability and retroactive liability, these are concepts I personally feel are "unfair" in many cases. I'm not sure it's more fair, however, for the general taxpayers to deal with the cleanup that company charged. So it's kind of a question of relativity.

My main thrust, though, is let the States do what they need to do to run their programs. We can argue about this at the Federal level, but I think most of the action is going to be in the States anyway. Bear in mind the States are already running underground storage tanks, RCRA corrective action, municipal landfills. They are going to be doing this work in some way, shape or form, and I would let them use their tools.

Finally, if I could just react real quickly to what several of the other folks in the panel have said. I think you can't have it both ways. You can't say we want the feds out of it but we want everything to be uniform. I'm hearing some of that, that we want things to be uniform. Well, then you've got the Federal program. So I think we need to recognize the inconsistency in that.

Mr. OXLEY. The gentleman's time has expired.

Before recognizing the ranking member of the subcommittee, the Chair would ask unanimous consent that a paper entitled Commission on Risk Assessment and Risk Management: Human Health Risk Assessment, a Case Study Comparing Standard Methods to Methods that Reflect Uncertainty and Variability, be made part of the record, and would simply quote from the study: "The most likely estimate zero, the median, 5 in 10 billion, the mean, 1.2 in a million, and the 95th percentile, 7 in 10 million of the range of risk estimates all would indicate that no intervention should be implemented."

I would ask that that be made part of the record based on the conversation that the gentleman from Michigan had with Mr. Robbins.

[The information follows:]

COMMISSION ON RISK ASSESSMENT AND RISK MANAGEMENT

HUMAN HEALTH RISK ASSESSMENT: CASE STUDY COMPARING STANDARD METHODS TO METHODS THAT REFLECT UNCERTAINTY AND VARIABILITY

The Commission on Risk Assessment and Risk Management retained Cambridge Environmental, Inc. to perform a health risk assessment by the methods recommended by the 1994 National Academy of Sciences report, *Science and Judgment in Risk Assessment,* and described in recently proposed legislation. The project focused on two goals: (1) explore how practicing risk assessors interpret the proposed legislation, and (2) compare the results of the risk assessment with the results obtained by current practices.

Cambridge Environmental, Inc. constructed a hypothetical hazardous waste site as the source of health risk. The risks to health resulted from exposure to a single contaminant, 1,1-dichloroethene (1.1-DCE), detected in 15 groundwater wells that supplied domestic water to nearby residents. Cambridge Environmental used real groundwater measurements from samples gathered at an existing site, so that the results would be grounded in actual circumstances. The assessment included estimates of exposure via ingestion of 1,1-DCE in contaminated drinking water, inhalation of 1,1-DCE released from shower water, and dermal absorption of 1,1-DCE in shower water. Exposure to 1,1-DCE causes cancer in some species of laboratory animals at doses much higher than those that would be expected to occur in contaminated groundwater; 1,1-DCE has not been observed to cause cancer in exposed workers. The assessment provides estimates of the incremental increase in the risk of contracting cancer over a lifetime due to exposure to 1,1-DCE.

Given these hypothetical circumstances, Cambridge Environmental identified the following sources of uncertainty in the estimates of risk for individuals:

- uncertainty in the average concentration of 1,1-DCE within each well and variability in this average across the 15 wells:
- variability in the characteristics of people exposed to the contaminated water—such as the amount of water they drink, the duration of their showers, and the length of their residence near the site:
- uncertainty in the relationship between the concentration of 1.1-DCE in shower water and the resulting concentration of 1.1-DCE in air; and
- uncertainty in the dose-response relation between exposure to 1.1-DCE and the incidence of cancer in laboratory animals; and even greater uncertainty in applying that relationship to humans exposed to 1.1-DCE.

Two methods of risk assessment address these uncertainties. The first, which corresponds to current practices, addresses the uncertainty and variability by choosing single values for most parameters that are recommended by EPA and that tend to overestimate the average risk to members of the population. Cambridge Environmental, Inc. called the resulting estimate of risk the "point estimate," and found it to equal about 2 in 10,000 for the hypothetical circumstances described above. Risk managers often consider risks of this size—that is, greater than 1 in 1 million—to be unacceptably large.

The second method addresses uncertainty by choosing values for each parameter from the range of its possible values to provide an estimate of risk. By repeating this process 10 to 20,000 times, the assessor can characterize the range of potential risks to individuals, as well as best estimates of risk. Cambridge Environmental applied this method to satisfy the requirements of the proposed legislation that to the extent feasible, risk assessments specify a best estimate of risk, as well as the upper and lower bounds on risk. Incorporating all of the sources of uncertainty and variability described above, Cambridge Environmental calculated that 50 percent of the estimates of risk were below 5 in 10 billion. The average estimate of risk equalled 1.2 in a million. About 25 percent of the risk estimates equalled zero, due to the probability that 1.1-DCE does not cause cancer in humans. About 5 percent of the risk estimates were greater than 7 in 10 million. The uncertainty in the dose-response relationship influenced the range of risk estimates far more than any other source of uncertainty or variability that was considered.

The two methods of addressing uncertainty yielded substantially different pictures of the risk to health. The point estimate of risk (2 in 10,000) would, by most standards, indicate that an intervention to protect health should be implemented. The most likely estimate (zero), the median (5 in 10 billion), the mean (1.2 in a million), and the 95th percentile (7 in 10 million) of the range of risk estimates all would indicate that no intervention should be implemented.

Mr. OXLEY. I now yield to the gentleman from Louisiana.

Mr. TAUZIN. I thank the chairman.

Let me first for the record indicate the letter that the ranking member of the full committee introduced was a letter from former Attorney General William Guste. It was a letter apparently directed to former Secretary of the Department of Environmental Quality Paul Tompling. Neither of these two gentleman now serve in Louisiana. The letter I believe you referred to, Mr. Grabinski, is from the current Secretary of the Department of Environmental Quality in Louisiana, Mr. William Kucharski. Is that correct?

Mr. GRABINSKI. That's correct.

Mr. TAUZIN. As I look at these two letters and your testimony, sir, what I gather real quickly is that in 1991 Billy Guste was writing about complaints of residents and complaining about the testing procedures used by DEQ in the State ordered cleanup of this facility. Is that correct?

Mr. GRABINSKI. Correct.

Mr. TAUZIN. As I read the letter from the current Secretary of Environmental Quality in Louisiana, Mr. Kucharski, his letter is to the Docket Coordinator, Headquarters, EPA, complaining about the EPA's sampling and testing procedures in the same neighborhood. Is that correct?

Mr. GRABINSKI. That's correct too.

Mr. TAUZIN. I also read from the letter indicating a willingness on the part of the State DEQ to assist EPA in re-sampling the neighborhood to make sure that the data collection is proper before EPA makes a decision to either list a site or not list a site as a national cleanup site. Is that correct?

Mr. GRABINSKI. Correct.

Mr. TAUZIN. As I read the letter, he also indicates in his statement to EPA "we do know that soil contamination is never evenly distributed and that pockets of contamination may be missed in any sampling program. If this is the case and residents are subject to exposure to this material, we are in total support of finding it."

He also indicates "pending the results of a complete re-sampling of the offsite areas, should these samples warrant listing, you will have our total support."

Apparently what we have here is a dispute over sampling and analysis of the offsite areas. Is that correct?

Mr. GRABINSKI. That's correct.

Mr. TAUZIN. Could not your recommendation and the concerns of the citizen find common ground if in reauthorization of Superfund we provided authority for the State to do an evaluation and to do a cleanup where a State has accepted responsibility but leave to the State and the EPA some joint capacity to examine the site, to indeed make sure that there aren't pockets of contamination missed or that in fact the sampling procedures used by the State have been adequate, to make sure in fact that there is some uniformity in the program so that residents don't have to complain to attorney generals and EPA that the State somehow has missed something?

Mr. GRABINSKI. That might result in some confusion. Understand Joslyn's approach to this was that the DEQ had not found a problem in this area. It's the dual master problem. After we finished, the EPA has now come in and indicated that there may be a problem.

Mr. TAUZIN. But it did so because residents were finding black material in their yards still. It may well be that there were pockets of contamination that still remained in those neighborhoods that still needed to be cleaned up. If DEQ's sampling techniques, if its procedures were not adequate to find those pockets and to deal with them, how do you propose that in delegating the authority to the States that we are going to still be assured that that problem is also addressed?

Mr. GRABINSKI. Somebody has to have what I would call the absolute authority.

Mr. TAUZIN. Some oversight?

Mr. GRABINSKI. Correct. Given the inconsistencies in soil sampling and the discrepancies between one particular location and another, I don't know that you can ever truly have a final word on that, but I think what you can have is a determination that the residuals that may remain pose no risk to human health and the environment. That is what Joslyn understood we had received from the DEQ.

Mr. TAUZIN. Reading from Billy Guste's letter, he was quoting a lady in the community who complained to him. He said the fellow from the DEQ came to test my yard, shook some soil from a pipe he used to dig down, and said, smell it. He said, do you smell anything? We said, no. He said, well, then everything is fine.

Obviously the residents at least had the impression that the testing was not being done very scientifically. There may in fact have been some missed areas.

While I personally want to, as the former chairman did, commend your company for taking the lead in assuming responsibility and, as you said, spending an entire year of your earnings to clean up this place, nevertheless your recommendations leave that one question mark for me. When we do delegate to the State, when the State does assume the responsibility, does work with a company willing to put up the money and clean it up, how are we assured that in the end citizens know that it has been done properly? Where do they go if they think it hasn't been done properly? How do we set up a procedure for some oversight without complicating the thing into a mess where you have two masters and a double listing?

Mr. GRABINSKI. I think you just have to delegate absolute authority to some agency. What we have here is sort of like a forum shopping incident. I didn't witness the DEQ sampling event, so I don't know how viable they were, but we have a situation where they weren't happy with one result and they went to another agency. Somebody has to have the final word.

Mr. TAUZIN. Thank you very much.

Mr. OXLEY. The gentleman's time has expired.

Mr. CRAPO. Mr. Chairman.

Mr. OXLEY. The gentleman from Idaho.

Mr. CRAPO. May I be recognized for a unanimous consent request?

Mr. OXLEY. Of course.

Mr. CRAPO. Mr. Chairman, following up on the issue that has been raised with regard to the Triumph mine site in Idaho, I would like to ask unanimous consent that we insert into the record a memo from Heidi Heath, who is a resident of the Triumph mine community, that clarifies very significantly, I believe, that that community does support efforts to move away from the EPA control of these issues and move to State and local control.

Mr. OXLEY. Without objection, the unanimous consent is agreed to.

[The memorandum referred to follows:]

TO: Jennifer - Congressman Mike Crapo
FROM: Heidi N. Heath
DATE: June 13, 1995
RE: May 25, 1995 letter to Jim Woods from Donna Rose

Per our phone conference regarding the above, after reviewing this letter and discussing wth several members of the community I feel comfortable making the following statement.

I believe that it should be understood that this letter should be considered a letter from Donna Rose personally and as an individual and not misconstrued as coming from the community stating "that the EPA should be brought back". While she has made some factual statements here, it is not our desire to have the Triumph site turned back over to the EPA.

It is our understanding that ASARCO and the States intentions are to follow certain procedural steps set forth by the DEQ: (1) sample, (2) assess (RI/FS) and (3) hopefully, then take "responsibility for the site"—what remediation is deemed necessary. I expect that there will be problems throughout these steps and expect we can then confront them via the DEQ if necessary.

As in the past, I'd once again like to state that I credit Donna and appreciate the lead actions she has taken to see that Triumph was deferred to the State and her continued efforts regarding deproposal. It is my understanding that Donna did a tremendous job before the Congress and Pat Murphy before the Senate. Testimonies worth reading.

HEIDI N. HEATH.

Mr. OXLEY. The gentleman from Ohio, Mr. Brown.

Mr. BROWN. Thank you, Mr. Chairman.

Mr. Jeffreys, I hope you heard the previous panel when Congressman Regula and Congressman Visclosky talked about brownfields. I applaud what they say, particularly in cities like Mr. Regula's Canton or Mr. Visclosky's Gary or in my district, in cities like Lorain and Elyria where the problem with abandoned industrial sites is everything from an eyesore to loosing jobs in the cities, to leaving those industrial contaminated sites unattended, to what it does to the tax base for the schools in Lorain and Elyria.

The Ohio plan, which Cindy Hafner from the Ohio EPA will in the next panel talk about, creates a remediation scheme that ties cleanup standards to future land use. If a company is willing to clean up the site to residential use, it could obviously be used for residential, for commercial. If it's cleaned up for industrial use, it can be used exclusively for industrial use. That, coupled with the issue of the covenant to get cleanups to move forward, the covenant not to sue is, I think, important to look at in this committee.

Mr. Jeffreys, is the covenant not to sue the key to get cleanups to move forward in these brownfield areas? Is that ultimately the real key?

Mr. JEFFREYS. As it operates now, obviously EPA promises not to come back and essentially sue after cleanups. Everyone I have talked to says it's not worth the paper that EPA's signature is written on. So the question of trying to get some trust out there is important. The question of a covenant not to sue, if it's based on rational risk assessment and future land use, I think the States are capable of making that determination on a State by State basis. I would try and give the States more flexibility than the current process does.

If you are asking how that would work into a State revolving loan fund, I don't think it would be difficult at all to work that into it.

I think the brownfields problem is probably the key problem. If you look at Wichita, Kansas, they were going to redevelop an area and couldn't because of Superfund questions. Many of the communities in the Midwest have the same problem. So the brownfields issue is vitally important.

I would think that if there was more of a guarantee that those who engaged in cleanup or redevelopment, re-industrialization, or even residential development could be free from future almost unlimited liability, yes, that would accelerate the process. But I would put the States in charge of it.

Mr. BROWN. Thank you, Mr. Chairman.

Mr. OXLEY. The gentleman's time has expired.

The gentlelady from Arkansas, Mrs. Lincoln.

Mrs. LINCOLN. Thank you, Mr. Chairman.

In this debate on voluntary cleanup and States' roles, Mr. Jeffreys, in your statement you refer to the possible development of SRF's to finance the Superfund program on the State level or a State program. Although this idea does sound very attractive, I have to express some reservations.

Although the SRF has worked well under the Clean Water Act in the past, as has been illustrated, I think, in our recent debates here in Congress to reauthorize the act, the small rural States under some of the amendments that were passed on the floor often get jilted in the financing arrangements. We have certainly found in Arkansas that under the House passed formula we would lose 42 percent of our SRF funding, and because we are a State that has less resources, we have used those resources towards leveraging them against a bond issue, which actually is our total fund. So that 42 percent reduction is actually doubled in terms of the clean water SRF. It basically guts our Arkansas water program.

My fear would be that the same thing might happen under a Superfund SRF.

Additionally, this concept behind SRF is that the State receives the money and then loans it out within the State and these loans are then repaid to replenish the fund so that it does continue itself and it is self-generating.

My question to you is, what if our fears are justified in terms of a lack of money for the SRF and who would repay these loans? Would it be the potentially responsible parties, or would it be ultimately falling on the State taxpayers?

Mr. JEFFREYS. In reference to the Clean Water Act SRF, I think part of the problem there is that money is still being fought over in terms of general revenues to capitalize the fund where a Superfund also has tax authority, where it has already collected some money.

Mrs. LINCOLN. Your proposal would extend the current taxing authority?

Mr. JEFFREYS. I'm not sure that that is necessary. When you look at the kind of cost savings and the ability of States as they have learned, as you mentioned, to leverage the existing revolving loan funds, I think it is at least potentially possible for most States to deal with it, because there will be enormous savings.

In addition, I would leave it up to the States on how to pay back the funds. For example, under the Clean Water Act there are sewage treatment fees and that sort of thing, and hookup fees. They have a source of revenues in many cases to go back into the fund and retire the bonds.

Under Superfund, if, for example, a site were abandoned or had been condemned by the State, or whatever, once it was cleaned up it could be returned to commerce and sold, and therefore the funds would go back into the revolving fund. In terms of property taxes, in the adjacent areas it would probably be enhanced by a cleanup, and the ability for businesses to come back in or mortgage bankers to come back into the area without fear of liability.

So there are some benefits in the immediate vicinity which could be captured through either a fee or tax system.

Mrs. LINCOLN. That is good in the eventual stages, but in the initial stages it sounds to me like you would be depending heavily on the taxpayers or the tax base there in order to get that started.

Mr. JEFFREYS. With the ability to issues bonds, that is how you avoid spikes in the taxing level or burden on local citizens. My basic perspective is somewhat ideological. I think that in many cases the States were lax in their regulations and in their oversight of some of these areas which truly do pose a risk, and so to place the burden elsewhere is no more justified. We are at an impasse. Therefore, I think the local community will have the strongest incentive to carefully oversee the cleanup, to make sure that both the citizens are safe and no money was wasted.

Mrs. LINCOLN. What you are looking at, do you eliminate retroactivity?

Mr. JEFFREYS. Retroactivity as currently configured, I would say probably needs to go.

Mrs. LINCOLN. You don't eliminate it totally as an idea, though.

Mr. JEFFREYS. I know that a lot of corporate America says it has to go, but the fact is if you did something wrong, if you were a bad actor, I'm not in favor of letting someone off the hook, but in many cases they really were living up to every single regulation and current standard of the time, and then it becomes a little questionable whether they truly are a polluter in the definition that most of us would accept today. That discourages good behavior today in many cases for the fear that in the future we'll come up with a new liability scheme.

Mrs. LINCOLN. In rural areas sometimes you find, or at least I have in my area, that we've got a lot of fully orphaned sites. So we really don't have anybody to fall back on.

I guess that leads me to one last question. You talk about it as a State issue or that it is primarily a State issue. Two questions on that. What if you have got a State that doesn't want the program?

We talk about it in terms of groundwater contamination, dealing with the soil, a whole host of things. My State, as many other States, is bordered by others. How do you deal with running a State program where the contamination could potentially harm the residents of other States?

Mr. JEFFREYS. States do have authority to sue one another. In those rare cases there would be some question. I think most States could form either regional compacts or come to some sort of agreement, particularly when you are talking surface contamination like with the Clean Water Act.

Part of my point is if a revolving fund is considered sufficient for surface water contamination, which often includes infectious agents, unlike most Superfund sites, I think that is a very clear and present danger in terms of environmental health. Then if it is appropriate there and if it is appropriate for safe drinking water, we should at least explore it. I think it would be appropriate as a mechanism for resolving the problems of Superfund.

Mrs. LINCOLN. You think the potential of litigation doesn't override the idea of giving it all to State authority as opposed to having a Federal program that eliminates that liability in terms of litigation and a whole host of other things?

Mr. JEFFREYS. No. I think the States are going to be capable of handling their affairs. There may be certain exceptional cases, but I think what we have got now under the current program is almost all exceptions.

Mrs. LINCOLN. What about those States that don't want the program, that don't want to do it, don't want to handle it?

Mr. JEFFREYS. I've heard that, and I'm wondering how many it is. It might be five; it might be more. It depends on exactly how Congress structures it. You are going to hear from some State witnesses. Part of the problem is that the States think they can get a really good deal. They want money, and then they will take the program over. Write me a blank check and I'll take it over. Anyone would.

Mr. OXLEY. The gentlelady's time has expired.

Mrs. LINCOLN. Thank you, Mr. Chairman.

Mr. OXLEY. We thank our panel very much for your testimony. Now we will seat the second panel.

We welcome our second panel. Our first witness is Mr. Tim Fields, deputy assistant administrator for the U.S. Environmental Protection Agency. Second is Nick DiPasquale, the Delaware Department of Natural Resources; Becky Norton Dunlop, Virginia Department of Natural Resources; Jim Strock from California EPA; Honorable Gail Norton, the attorney general from the State of Colorado; and Cindy Hafner from the Ohio EPA.

We will start with Ms. Hafner.

STATEMENTS OF CYNTHIA A. HAFNER, ATTORNEY, DIVISION OF EMERGENCY AND REMEDIAL RESPONSE, OHIO ENVIRONMENTAL PROTECTION AGENCY; TIMOTHY FIELDS, JR., DEPUTY ASSISTANT ADMINISTRATOR, ENVIRONMENTAL PROTECTION AGENCY; NICHOLAS DiPASQUALE, DIVISION DIRECTOR FOR AIR AND WASTE MANAGEMENT, DELAWARE DEPARTMENT OF NATURAL RESOURCES, ON BEHALF OF ASSOCIATION OF STATE AND TERRITORIAL SOLID WASTE MANAGEMENT OFFICIALS; BECKY NORTON DUNLOP, SECRETARY, VIRGINIA NATURAL RESOURCES; JAMES M. STROCK, SECRETARY, CALIFORNIA ENVIRONMENTAL PROTECTION AGENCY; AND GAIL NORTON, ATTORNEY GENERAL, STATE OF COLORADO

Ms. HAFNER. Thank you, Chairman Oxley and members of the subcommittee. Thank you for inviting Ohio EPA to express its positions on proposed changes to CERCLA.

My name is Cindy Hafner and I am the supervising attorney for the Division of Emergency and Remedial Response of the Ohio EPA. My comments today are made on behalf of Ohio EPA.

I would request that my written testimony be included in the record of the subcommittee.

Mr. OXLEY. Without objection, all of the statements will be made part of the record.

Ms. HAFNER. I did want to mention that Ohio EPA does support delegation or authorization of CERCLA to the States, but many of the witnesses today have already discussed a lot of those issues, and I wanted to focus my remarks primarily to changes to CERCLA that would acknowledge the cleanup work performed under State voluntary programs.

Ohio has a new voluntary cleanup program that is rather unique, although there is a lot of variation among the States with respect to how they conduct voluntary cleanups.

Ohio's program is designed to address the universe of sites subject to CERCLA liability but not included in the State or Federal cleanup program. Owners of these properties have no mechanism to eliminate the liabilities associated with the contamination on their property.

Ohio's program authorizes people to remediate contaminated property and in exchange receive a legal release of the liability. Ohio's program accomplishes this through the following program elements:

First, the voluntary program defines clear cleanup standards and a clear cleanup process in rules. The cleanup standards must protect public health and the environment from realistic exposure scenarios and relies on existing or planned land uses for in the future. These clear standards and processes give volunteers guidance so that they know how to do a cleanup that will make the State of Ohio happy.

Second, the voluntary program approaches cleanup through a privatized system with State oversight focused on setting clear cleanup standards and auditing completed cleanups.

Finally, the voluntary program provides financial incentive to volunteers through tax abatements and low interest loans. We be-

lieve that this allows more cleanup to go forward because there are some funds available to help get cleanups completed.

While volunteers can eliminate their State liability by completing a cleanup, under Ohio's voluntary program their property is still subject to CERCLA liability. To provide incentives to volunteers and to help achieve Ohio's goal of maximizing cleanups completed under our voluntary program, a release from CERCLA liability is necessary.

To accomplish this, CERCLA should acknowledge Ohio's and other States' voluntary cleanup programs by creating a CERCLA State voluntary cleanup program that would approve or certify qualified State programs. The process for approval should be simple and efficient. It should be a performance-based self-certification system.

Because States have different processes for completing voluntary cleanups, the approval process must focus on the results of the State programs rather than how the States go about getting the cleanups completed. So long as a State produces protective voluntary cleanups, can require completion of high priority cleanups, the ones that truly are threatening human health and the environment if a voluntary action isn't achieved, and afford some level of community involvement, then the State program should be approved.

The CERCLA State voluntary program should also include minimal Federal involvement and a mechanism to grant a release from CERCLA liability once the cleanup is achieved. At a minimum, completed voluntary cleanups should be deferred from the National Priorities List.

Additionally, some changes peripheral to the basic program that I have just described would expand the incentive to Ohio's volunteers participating in our program and also to volunteers in other States.

First, we would like to see a resolution to the lender liability problem. Our State law included some relief for lenders and we think that it would be important to encourage banks to lend money for cleanup and redevelopment of contaminated properties.

Second, we would like to see retention of the retroactive strict and joint aspects of CERCLA liability. We think that that maintains incentive for volunteers to complete cleanups, with the caveat that these strong liability tools would be tempered overall with innovative tools such as mandatory allocation, expansion of de minimis and de micromis settlements.

Finally, we would like to see reformation of the remedy selection process to address realistic exposures and realistic future land use to ensure that the volunteers who are completing cleanups under Ohio's voluntary or enforcement program are achieving cost-effective cleanups.

Thank you for giving me the opportunity to testify today. I would be happy to answer any questions you might have.

[The prepared statement of Cynthia A. Hafner follows:]

PREPARED STATEMENT OF CYNTHIA A. HAFNER, SUPERVISING ATTORNEY, DIVISION OF EMERGENCY AND REMEDIAL RESPONSE, OHIO ENVIRONMENTAL PROTECTION AGENCY

Chairman Oxley and Members of the Subcommittee, thank you for inviting Ohio EPA to express its position on proposed changes to the Comprehensive Environ-

mental Response, Compensation and Liability Act of 1980, as amended (CERCLA). I am Cindy Hafner, Supervising Attorney for the Division of Emergency and Remedial Response at the Ohio Environmental Protection Agency. My comments today are made on behalf of Ohio EPA.

This opportunity to offer our views is particularly important to Ohio EPA. Ohio has a successful cleanup program that consists of voluntary and enforcement measures. Both the federal Superfund program and Ohio's cleanup program remediate contaminated sites in Ohio. Amendments to CERCLA at the federal level will directly affect the thirty-four NPL Superfund sites in Ohio and indirectly affect Ohio's cleanup program. The CERCLA changes you are contemplating can improve the effectiveness of Ohio's voluntary and enforcement programs. Ohio seeks positive changes in the federal Superfund law. At the same time, your interest in hearing from the states reflects the reality that an effective solution for CERCLA must include state participation. I hope that my comments provide insight into answers for CERCLA that satisfy our mutual interests.

My testimony is divided into two sections. The first section discusses Ohio EPA's viewpoint on the states' role under CERCLA. The second section outlines specific changes to CERCLA that would expand incentives to volunteers participating in Ohio's voluntary cleanup program. The first section is general in nature because other speakers presented detailed testimony on states' role today. The second section is more detailed and focuses on improvements to CERCLA that would specifically assist Ohio's voluntary program.

CONGRESS SHOULD DELEGATE OR AUTHORIZE SUPERFUND AUTHORITY TO THE STATES

Ohio EPA strongly encourages Congress to amend CERCLA to authorize states the option of implementing a state governed Superfund program. The opportunity to implement the Superfund program would give Ohio EPA more flexibility to tailor the Superfund cleanup program to address Ohio's contaminated sites, maximize the efficiency of the cleanup programs, and eliminate the duplicative oversight by both the federal and state governments at Ohio's Superfund sites.

Ohio has effectively undertaken a comprehensive approach to remediating contaminated sites subject to CERCLA's liability that are not currently addressed by the federal cleanup program. Ohio's program consists of an enforcement and a voluntary component, both of which are essential to address the problem of contaminated property. The policies underlying Ohio's comprehensive system are based upon the idea that the majority of cleanup should be completed by volunteers with private dollars. Ohio's voluntary cleanup program achieves protective cleanup levels cost effectively because government oversight is minimal. Thus, given limited funding, more cleanups will be accomplished under the voluntary program. The enforcement program is necessary because private dollars are not always available for voluntary cleanup, some responsible parties refuse to perform necessary cleanup, and sites that threaten public health may require immediate response.

The Superfund program is also necessary in Ohio. The Superfund program remediates large complex sites, often where orphan shares of pollution exist. For Ohio's cleanup system to efficiently realize its goals, a program to address these problems and motivate participation must exist.

However, the most efficient and cost effective cleanup system for Ohio is one that grants Ohio EPA authority to implement the Superfund program within the state program. The Superfund program represents a tool that would give us additional creativity and flexibility to remediate Ohio's contaminated property. This will ensure a balance between the voluntary and the enforcement cleanups that maximizes use of the market forces to clean sites in a manner tailored to Ohio's needs.

Even though Ohio EPA implements its two state program components exclusively, we share implementation responsibilities with the federal government for the thirty-four NPL sites in the Superfund cleanup program. This shared responsibility for the Superfund program is a target of criticism because occasionally disagreements occur between the state and federal government and shared responsibility is inefficient on its face. However, many of the federal government's policies, program and funding problems, and accountability differ from Ohio EPA'S. These underlying differences create tension when implementing the Superfund program. Granting the states authority to implement the Superfund cleanup program will eliminate the tension and create a proficient system in Ohio.

THREE RECOMMENDATIONS TO EMPOWER A STATE SUPERFUND PROGRAM

Ohio EPA would like to implement the federal Superfund program and, therefore, we are concerned about the program's substance. A program attractive to Ohio EPA would include the following tools:

Retain strict, joint and several liability

Repeal of retroactive liability would adversely affect the communities damaged by pollution and unjustly punish companies that accepted responsibility for their pollution. Without retroactive liability, environmentally responsible companies will be disadvantaged in the market place. This effect will create a disincentive for responsible companies. Strict, joint and several liability are necessary to ensure accountability for all companies and to level the economic playing field. Without another creative liability scheme that would induce environmental responsibility to the level that CERCLA has, Ohio must support the retainment of strict, joint and several liability.

One modification of CERCLA's liability supported by Ohio EPA is mandatory allocation of liability. Mandatory allocation would be a required process of liability allocation among potentially responsible parties in a CERCLA cost recovery action. Mandatory allocation would reduce litigation and transaction costs while providing incentives for private entities to negotiate settlements and initiate cleanup. The mandatory allocation must happen early in the negotiation process and include funding for orphan shares and settlement options for *de minimis* or *de micromis* parties. Mandatory allocation must also protect parties who have settled, and reserve contribution actions against non-settlers for the government. The joint and several liability scheme can be harsh and produce unfair results, however, it must be retained as a last resort in order to bring responsible parties to the allocation table and maintain the overall incentive to voluntarily clean sites.

Clarify the remedy selection process

The current statute and rules prescribing what is an appropriate remedy for a site are unclear, conflicting, and subjective. At this time, CERCLA does not contain clear guidance for balancing cost and permanence. CERCLA should be amended to include a clear performance goal for remedies and intelligible criteria for deviation from that goal. The remedy selection process should be streamlined and objective to cease U.S. EPA's site-by-site interpretation of the statute. Many proposals for revamping CERCLA's remedy selection process exist. Ohio supports alternatives that include; enhancing the use of presumptive remedies and developing national goals for cleanups.

Empower local government to effectuate community relations, future land use determinations, and redevelopment of brownfields

Local governments have historically held authority for land use planning and zoning. CERCLA currently biases cleanup toward residential land use, thus, usurping a traditional function of local government. Congress should amend CERCLA to utilize the local government's experience with land use planning. Local governments also have firsthand knowledge of CERCLA's unfortunate effect of encouraging new development in greenfields rather than recycling industrial property. CERCLA's superfund money should be available to local governments as incentive to redevelop brownfields. For example, U.S. EPA granted money to Cuyahoga County for cleanup of brownfield sites in the greater Cleveland area.

Finally, because local government can readily communicate with the citizens, local governments should be empowered to educate citizens about risk assessment and the reality of the risks associated with the hazardous sites in their community. Public participation must be structured so that information is readily available to citizens in a manner that does not hinder remediation of sites. Public participation, combined with a clarified remedy selection process and the continuance of strict, retroactive, joint and several liability will result in a Superfund program that Ohio EPA can effectively manage.

CERCLA'S SHOULD ACKNOWLEDGE STATE VOLUNTARY PROGRAMS

Although we believe that the best cleanup system for Ohio is comprehensive and requires changes to CERCLA as outlined above, some specific changes to CERCLA would enhance the benefits received by the volunteers who complete cleanups in Ohio. Since we promote the voluntary program as the primary program to address contaminated sites in Ohio, we are especially interested in encouraging you to consider CERCLA amendments which would enhance our voluntary program.

Ohio enacted a voluntary cleanup program that provides a mechanism for citizens to voluntarily cleanup contaminated property and receive a release from Ohio for state liabilities associated with contaminated property. State liability was one of many obstacles for voluntary cleanup and reuse of property. Ohio EPA consulted stakeholders in the cleanup and reuse process to identify barriers faced by entities attempting to clean up contaminated property. Based upon advise from Ohio EPA

and the stakeholders, Ohio's General Assembly crafted a law to remove these barriers and encourage voluntary cleanup of contaminated property.

The Ohio Voluntary Action Program authorizes owners and operators of property contaminated with hazardous substances or petroleum to voluntarily clean the property and receive a release from the State of Ohio for further cleanup actions. Ohio's voluntary cleanup program was designed to maximize resources and ingenuity in the private sector. With an estimated three to four thousand contaminated sites in Ohio, we know that the scope of the problem is greater than public resources alone could solve. Therefore, a strong public-private partnership was crucial to a successful voluntary program. Ohio's voluntary program is focused on results and has eliminated process-oriented hurdles that often deter voluntary cleanup.

Ohio EPA is currently developing generic numerical cleanup standards for soils, sediments and water in addition to detailed risk assessment procedures to define for volunteers "how clean is clean." Our cleanup standards will factor in land use and utilize realistic, protective exposure assumptions. Volunteers are eligible for "covenants not to sue" that run with the land and limit liability for redevelopers and future landowners. Though the state will operate an audit program to ensure that sites are cleaned up properly, we are not requiring state oversight at every step of the cleanup process. Instead, Ohio EPA created a certification program for environmental professionals who advise volunteers on cleanups, and a certification procedures for laboratories that verify when a site complies with cleanup standards.

Ohio EPA created other incentives for voluntary cleanup. For example, one-stop shopping for permits is available to simplify and expedite cleanups. Increased lender liability protection will encourage financial institutions to finance volunteers and municipalities attempting to revitalize blighted urban areas. Variances are available to volunteers when the applicable cleanup standards are technologically or economically infeasible. Financial incentives such as tax abatements and low-interest loans are also important components of our voluntary cleanup program that encourage redevelopment of contaminated property.

Our program sends a message that the state is willing to encourage creativity and give the private sector the tools necessary to clean up and reuse industrial sites with the caveat that those who abuse the system will face serious penalties.

While volunteers can eliminate their state liability by completing a cleanup under Ohio's voluntary program, their property is still subject to CERCLA liability. Under this cloud of federal liability many potential volunteers will chose not to utilize Ohio's program. Thus, fewer cleanups will occur and existing contamination will continue to migrate, proliferating the problem for future generations. Alternatively, government resources, through public funding of the cleanup or through enforcement proceedings and oversight, may be used to address these problems. However, those who choose to clean a site under Ohio's voluntary cleanup program will still face the uncertainty of CERCLA liability which will negatively affect the marketability and value of a property.

To provide volunteers with incentives; and achieve Ohio's goal of maximizing cleanups under its voluntary program, release from CERCLA liability at completion of the Cleanup process is necessary. CERCLA should acknowledge Ohio's and other state voluntary cleanup programs by creating a federal, voluntary Superfund program. Under that federal program, the U.S. EPA would acknowledge and approve state voluntary programs.

The CERCLA state voluntary cleanup approval process

The CERCLA state voluntary cleanup approval process should be flexible, simple and efficient to implement. Ohio envisions a self-certification mechanism that is performance-based. This approval process should not prescribe a single standard for which all states must conform and should not be process-intensive. Instead, program objectives should be outlined with each state choosing the process necessary to attain those objectives.

The key elements of the self-certification should be:

- State programs must set an acceptable level of protectiveness for cleanup (How Clean Is Clean);
- States must have a mechanism to ensure that its voluntary cleanup program results in protective cleanups. The process to achieve protective cleanups should not be prescribed by the federal government;
- States must have the capability to pursue high priority sites that do not successfully complete voluntary cleanups;
- States must afford some level of community involvement, although the appropriate level(s) of public involvement should be established by the State.

A federal approval process for state voluntary cleanup programs must recognize the diversity throughout the country. State governed and financed voluntary clean-

up programs, designed with particular attention to efficiency and effectiveness, have existed for over half a decade. These programs are tailored to the needs of the particular state and, therefore, programs vary from state-to-state. It is essential that CERCLA endorsement of state voluntary programs recognizes diversity throughout the country and allows voluntary programs to be managed at the state level.

The CERCLA state voluntary cleanup program

In order to encourage states like Ohio to utilize a self-certification program, CERCLA must create a program that minimizes federal oversight and involvement in the state voluntary actions. Reporting requirements to the federal government should also be minimal. Cleanups conducted under approved state programs should receive full CERCLA liability release or, at a minimum, permanent deferral from the National Priorities List. All sites subject to CERCLA liability should be eligible to participate in a state voluntary cleanup program. Limiting state programs to a subset of sites such as "Brownfields" would create an artificial distinction at the federal level that does not exist at the state level.

Ohio and many other states have voluntary cleanup programs already in operation. A wealth of experience exists within the states that represents a wide diversity of experience. State involvement in the development of rules for the federal voluntary program is essential to ensure that the rules reflect this diversity and create a system that states will utilize.

In addition to amending CERCLA to acknowledge state voluntary programs, some peripheral changes to CERCLA are necessary to fully maximize the benefits of our voluntary program in Ohio. These changes include resolving the lender liability problem and modifying the remedy selection process.

Ohio's voluntary law specifically addressed the lender liability problem. Lenders, whose only connection with a contaminated property is to protect a security interest, are not liable for property cleanup. The Ohio General Assembly intended to encourage banks to finance cleanup and redevelopment of contaminated property without fear of future liability. However, because CERCLA liability may extend to contaminated properties addressed in Ohio's cleanup program, banks are reluctant to be involved without similar protection at the federal level. Thus, in order for Ohio's law to fully achieve its goal of remediation and recycling of contaminated sites, a solution to the lender liability problem at the federal level is necessary.

Critics argue that the U.S. EPA's risk assessments contain extreme assumptions of future use that may never occur. If residential use of a site is not a reasonable assumption, then the cost of a risk assessment for that future use is economically wasteful. Persuaded by these arguments, Ohio EPA is developing rules that will determine how clean voluntary sites must become. Our program exercises realistic assumptions about risk exposures and implements existing or planned future land use into the remedy selection process.

Changes to the remedy selection criteria would ensure, on a practical level, that remediation completed under our voluntary program is within the definition of "protective levels" under the federal program. If CERCLA's remedy selection criteria results in cleanups that are too disparate from Ohio's, we will consider revisiting our rules. Furthermore, reformation of remedy selection will decrease the costs of cleanups. CERCLA reauthorization should include a remodification of risk assessment that integrate realistic future land uses and a site specific remedy selection process.

In closing, Ohio is very interested in seeing changes to CERCLA that will compliment and improve the Ohio cleanup programs. Thank you again for this opportunity to present Ohio's position on CERCLA reauthorization.

Mr. OXLEY. The next witness is Tim Fields from U.S. EPA.

STATEMENT OF TIMOTHY FIELDS, JR.

Mr. FIELDS. Thank you, Mr. Chairman. It's a pleasure to be here this morning to talk about these very important topics of the State role in Superfund, voluntary cleanup programs, and brownfields redevelopment.

I will briefly summarize my remarks. Just opening, Mr. Chairman, I would comment briefly on your opening statement. I just wanted to clarify the status of the Duke University study that was testified on by Mr. Viscusi at the last remedy selection hearing.

Those data that were quoted regarding the costs of remedies in terms of theoretical cancer incidents avoided were very preliminary

numbers. They are part of a draft study that we are currently reviewing. We have some real concerns about that data and information. It does not include non-cancer and ecological effects as well.

We are working with Duke University as part of that EPA-funded study to develop what we believe are valid numbers. So we have a real concern for the record that those numbers not be quoted as any final estimates of cancer incidents avoided due to remedy cleanup.

On the topic of this hearing, the Federal Government, the States and the tribes share responsibility for ensuring that the cleanup of the Nation's hazardous waste sites is efficient, effective and is done in a cost-effective manner. This program has evolved and grown in the almost 15 years since Superfund has been in existence.

The 1986 amendments greatly strengthened and enlarged the State role on the Superfund but without expressly providing the kind of delegation or State primacy allowed by many other Federal environmental statutes.

We continue to support a comprehensive reauthorization of Superfund that includes efforts to enhance the State role in Superfund. We believe that is the appropriate way to go and we support and agree with my colleagues here on that direction.

The States have long sought a larger role in implementing the Superfund program than the current statute allows. Several States and State organizations have endorsed the general concept of enlarging the State role.

The administration is supportive of efforts to enlarge and enhance the State role in Superfund. We continue to support the delegation of certain removal, site assessment, allocation, and remedy selection authority to qualified States. We support proposals to comprehensively reform Superfund and provide States with adequate legal authority, capability, resources, and experience to carry out the Superfund program.

Other elements of the enhanced program that we support include State receipt of funding from the trust fund after entry into cooperative agreements with EPA, a fixed State cost share of 15 percent for State lead response activities, including operation and maintenance.

We believe this approach minimizes the overlap between Federal and State governments by delegating to capable States more responsibility and therefore providing them with more autonomy.

In the area of voluntary cleanups, we believe that there needs to be an effective program, as you proposed last year in the last Congress, for addressing those tens of thousands of lower priority sites for which States have primary cleanup responsibility. Twenty-four States have enacted their own voluntary cleanup programs and laws to address these sites.

We, the administration, support programs that provide technical, financial and other assistance to States to establish and maintain voluntary response programs under specific conditions.

Necessary State program elements would include necessary technical assistance, providing oversight and enforcement of their voluntary cleanup program, providing adequate responsibilities and opportunities for public participation, and ensuring that the State would finish cleanups if the voluntary party did not do so.

Finally, in the area of brownfields redevelopment, we again believe that comprehensive reform of Superfund would do a lot to help facilitate redevelopment of contaminated properties. We are trying to address this through initiatives we have done internally in our brownfields economic redevelopment initiative, which have included removing 25,000 sites from the Superfund inventory, committing to award 50 grants by the end of 1996 to local governments to try new approaches to redevelopment of contaminated properties that involve site assessment, dealing with liability issues as well as options for cleanup.

Finally, State cleanup programs are developing and maturing. We believe that many States will seek and should receive more Superfund responsibility. We anticipate that several States in a short period of time can be ready to accept a program like that supported by the administration. Other States could surely follow within the next several years to adopt and implement such a program that would incorporate the reforms we have all talked about regarding remedy selection, community involvement, State role as well new, more effective and fair enforcement.

We believe delegation offers the responsible parties, the States and the community and the other members of the public the assurance that the reforms crafted in a comprehensive Superfund bill can give States the tools to operate a program with reasonable but effective Federal oversight, funding and assistance.

Thank you for the opportunity to address the subcommittee.

[The prepared statement of Timothy Fields, Jr. follows:]

STATEMENT OF TIMOTHY FIELDS, JR., DEPUTY ASSISTANT ADMINISTRATOR, OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, U.S. ENVIRONMENTAL PROTECTION AGENCY

INTRODUCTION

Mr. Chairman and Members of the Subcommittee, thank you for the opportunity to appear before you today to discuss the closely related topics of the role of the States in implementing the Comprehensive Environmental Response, Compensation, and Liability Act (Superfund); voluntary cleanups; and, EPA's "Brownfields Redevelopment" initiatives. I will briefly describe the State/EPA Superfund partnership, EPA's activities with respect to State voluntary cleanup programs, and our "Brownfields" Action Agenda.

THE STATE/EPA PARTNERSHIP

The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), as originally enacted in 1980, created a hazardous waste cleanup program involving both the Federal and State governments, but a program for which the Federal Government clearly had the stronger role. The Superfund Amendments and Reauthorization Act of 1986 (SARA) greatly strengthened and enlarged the State role under CERCLA, but without expressly providing for the kind of delegation or State "primacy" allowed by many other Federal environmental statutes.

EPA and the States have worked hard together during the last several years to strengthen the role of States in implementing Superfund. State programs have grown since the passage of SARA, and EPA, through our Superfund Administrative Improvements and Reforms, is working to further empower States.

In addition on May 17, the Agency and the States issued a joint agreement on the National Environmental Performance Partnership System, which establishes a new relationship between EPA and the States with respect to the implementation of all State and Federal environmental programs. To this end, we must direct scarce public resources toward improving environmental results, allow States greater flexibility to achieve those results. In this vein, we continue to support a comprehensive reauthorization of Superfund that includes efforts to enhance the State role in Superfund. We believe qualified States should have the opportunity to select and

perform a full array of CERCLA response actions, including State oversight of Federal facilities. We support efforts to limit or eliminate the overlap between Federal and State governments by providing States with more decisionmaking authority and responsibility and, therefore, more autonomy.

THE CURRENT STATUTE

The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) and provisions under CERCLA and SARA establish the framework for EPA/State involvement in Superfund cleanups. The enactment of SARA encouraged substantial and meaningful State involvement by specifying points at which State participation is required. It also outlined minimum requirements for involving States in virtually every phase of Superfund decisionmaking. As a result, States participate in enforcement, removal actions, site assessment, and remedial activities, including remedial investigations, feasibility studies, remedial designs and remedial actions.

Superfund authorizes the Federal Government to assume the lead responsibility for hazardous substance response activities at a site, or to transfer the necessary funds and management responsibility to a State, political subdivision of a State, or federally-recognized Indian Tribe, as long as EPA selects the remedy.

Under the current statute, EPA and the State meet to decide who will take the lead responsibility for each Superfund site. For a Federal-lead response (including Federal Facilities), EPA is the lead agency, it assigns responsibility for managing and conducting the work. In this instance, the State or Indian Tribe generally functions as a support agency. As a support agency, the State or Tribe may hold some key responsibilities and perform specific parts of the cleanup, but it does not take on the major portion of tasks for the response.

For a State or Tribal response, EPA functions as a support agency. A State or Tribal-lead can mean one of three things: (1) the state is overseeing a potentially responsible party (PRP) cleanup; the State is carrying out most aspects of the cleanup, but the response is Trust Fund-financed; and the State is given lead responsibility and is financing the response. It is important to note that EPA must still approve all remedy selection decisions that require Trust Fund financing.

States also have specific responsibilities under the statute, including identifying applicable, relevant and appropriate requirements (ARAR's); that is, the State environmental requirements that are applicable or relevant and appropriate to the remedial action, and providing certain assurances.

Before a State can engage in a Trust Fund-financed remedial action, whether EPA or State lead, the statute requires that a State must assure it will:

Pay Part of the Cleanup Costs.—A State is required to pay 10 percent of the costs of a remedial action if the site was privately operated at the time of the hazardous substance release. A State is required to pay 50 percent of all response costs if the State or locality operated the site.

Ensure Adequate Off-Site Storage.—A State is required to ensure that hazardous substances removed from a site will receive adequate off-site storage, disposal, or treatment.

Assume Responsibility for Operation and Maintenance Activities.—The State is required to assume responsibility for all O&M activities for a remedial action. The State assumes ultimate responsibility for performing O&M of the selected remedy, even though a political subdivision may manage the actual site.

Accept Interest in Real Estate.—The State is required to document its commitment to accept interest in real estate that may need to be acquired for a Superfund response.

Maintain Capacity for Disposal and Treatment of Wastes.—The State is required to maintain the capacity for the disposal or treatment of all hazardous wastes expected to be generated within the State for 20 years. This assurance consists of the State's capacity assurance plan, which must be approved by EPA before Trust fund financed remedial actions take place in the State.

These assurances can be provided through site-specific remedial cooperative agreements or Superfund State Contracts. In addition, there may be other site-specific agreements between EPA and the States. The principal vehicle for supporting States and Indian Tribes financially is through Core Program Cooperative Agreements. With Core Program funding, EPA helps the States and Tribes build and maintain basic program capabilities that cannot be accounted for on a site-specific basis, such as management, accounting and recordkeeping, legal counsel and training. Since the inception of the Core Program in 1987, as part of SARA, the Agency has awarded the States over $103 million in Core grant funding. Currently, 46 States and Indian Tribal governments (or consortia) are receiving this assistance.

EPA has documented State and Tribal Superfund capabilities since 1989 through a study generally referred to as the "50-State Study." Published updates of this original report have been made periodically, most recently in 1993. Findings from that report identify State cleanup and enforcement programs, State program staff levels, use of cleanup funds compared to general State revenues, State public participation requirements and other aspects of their programs.

- The number of States that have some dedicated cleanup funds and some enforcement capabilities has increased from 39 in 1989 to 45 in 1993; however, the size of these funds and the degree of enforcement capability varies widely among those States.
- Thirty-six States reported the use of State site inventories or priority lists, an increase of 7 States since 1989.
- The number of States with specific requirements for basic public participation practices has also increased. A total of 35 States provide public notice of identified sites or completed remedial action plans, and 23 States solicit public comments during the site management process. Thirty-five States have provisions for public meetings or hearings, up from 24 in 1989. About 6 States currently make use of citizen advisory groups in planning cleanups and revising cleanup policies.
- At least 30 States have retroactive liability provisions. In addition, 39 States have strict liability and 34 States have joint and several liability. At least 24 States have all 3 components of a CERCLA-like liability system. In addition to their own State statutory authority, half of the States use Federal CERCLA enforcement authority to supplement (or cure deficiencies in) State enforcement authority.

While the 50 State Study shows significant development of Superfund cleanup programs in some States, it is important to note that there are also significant variations among the States. State cleanup programs collectively are demonstrably developing and maturing. Indeed, several States have their own cleanup laws or RCRA corrective action authority under which they can, independently of the Federal Government, take responses or direct responsible parties to clean up sites.

States have long sought a larger role in implementing the Superfund program than the current statute allows. Critics of the current process complain that CERCLA's provisions relating to active Federal and State involvement at sites results in substantial duplication of effort, and in some instances delay of cleanup. Several States and State organizations have endorsed the general concept of enlarging the State role. The Administration is supportive of efforts to enhance the State role in Superfund. While much progress has been made in improving coordination and relations, the appropriate State role for the future of the Superfund program needs to be better defined.

We acknowledge the limitations of the statute that have often led to the complaint of serving "two regulators." We have supported and continue to support the Administration's National Performance Review's goals for reinventing government, which include minimizing duplication of effort between levels of government, and empowering States.

With respect to State interest and capability in assuming a greater role in Superfund cleanup, examination of State authorities and capabilities indicates that some States have large, well developed Superfund programs that would welcome a delegated program while others with emerging or currently inactive programs need Federal technical and financial assistance to become fully capable.

The Agency continues to support the delegation of certain site assessment, allocation, and remedy selection authority to qualified States. Last year we supported proposals to comprehensively reform Superfund that would have provided that States with adequate legal authority, capability, resources, and experiences to carry out the Federal program would be able to receive delegation of the full range of response activities at Superfund sites.

In addition, States that enter into cooperative agreements with EPA would receive funding from the Trust Fund to carry out response activities to meet all applicable State and Federal cleanup requirements. States would be responsible for paying the incremental differences for attaining any cleanups that exceed Federal standards and State applicable requirements.

Under the program we envision for enhancing the State role, the Administration supports a fixed State cost-share of 15 percent for State-lead response activities including operation and maintenance. In addition, a State would maintain a list of NPL and non-NPL sites within its boundaries.

Finally, States would have to plan to ensure sufficient treatment, storage and disposal capacity for the life of the project, but EPA would not require the current 20 year assurance to be provided.

We believe this approach minimizes the overlap between Federal and State governments by delegating to capable States more responsibility, and therefore provides them with more autonomy. Furthermore, by reducing uncertainty regarding the appropriate role either State or Federal Government is to play, we believe the most important net effect will be to cleanup Superfund sites faster.

VOLUNTARY CLEANUPS

Since the enactment of CERCLA is 1980, roughly 1,300 sites have been placed on the National Priorities List of Superfund sites, and the list could grow to as many as 2,800. In addition to these high-risk, high-priority sites, there are tens of thousands of lower-priority sites for which States have primary cleanup responsibility. With limited resources, States have had to focus on those sites posing the most risks, leaving some lower-risk sites yet to be cleaned up. Many responsible parties are willing and able to clean up the site, but they refuse to proceed with cleanup in the absence of direction from the State that the cleanup is being performed to the State's satisfaction and standards. Investors and developers, also uncertain of the costs and liabilities associated with these properties, generally avoid getting involved at all, and look instead to develop more pristine properties. This migration from "brownfields" to "greenfields' is particularly problematic to certain urban and industrial areas, where the loss of investment capital and jobs further exacerbates existing economic and social conditions.

In response to these limitations and problems, roughly 20 States have enacted their own voluntary cleanup laws and programs. These programs allow responsible parties, as well as prospective purchasers to enter into agreements with the State to voluntarily cleanup the site, pay for State oversight, and generally receive some sort of acknowledgement or sign-off from the State. The Administration recognizes the substantial progress that these State programs have made, and is exploring ways in which to foster and encourage such voluntary efforts. EPA has already provided roughly half a million dollars to certain States to build and develop State voluntary programs, and is working with the States to identify other ways to increase voluntary remediation.

The Administration supports a program that would provide technical and other assistance to States to establish and expand voluntary response programs under specific conditions. Necessary State program elements would include: providing opportunities for technical assistance; providing oversight and enforcement of the voluntary cleanup program; providing adequate opportunities for public participation, and ensuring that the State would finish cleanups if the volunteering party fails to do so.

A voluntary cleanup program merits wider use. It benefits a wide spectrum of the community—bankers, developers, environmentalists, and all other elements of a viable and thriving community. The Administration supports changes to the statute to provide the flexibility and encouragement to States to institute voluntary cleanup programs. We supported just such an amendment to the statute last year and remain supportive of that effort now.

RECENT EPA INITIATIVES

In addition to the statutory reforms sought by the Administration, over the past two years, EPA has put in place a series of administrative improvements to the Superfund program. I am particularly pleased to report on the progress that the Agency is making in this regard. Significant steps have been taken to address key areas of concern and to build upon and continue the Administrative improvements initiatives launched in 1993. These efforts were designed to strengthen the program by improving the pace of cleanups, lower the costs of cleanups, reduce the burdens, increase the fairness of the program for all involved; and, improve and expand the opportunities for public involvement and participation.

Of particular note is the initiative referred to as the "State/Tribal Deferral" initiative that provides qualified States and Tribes with the opportunity to oversee Potentially Responsible Party cleanups at sites that might otherwise be placed on the NPL by EPA. Under such a "deferral" EPA would accept the result of a cleanup that complies with the requirements of the agreement. Several key States have worked with us on this approach at more than 20 sites to date, and final guidance was issued just last month.

Most recently the Agency has moved forward with additional Superfund administrative reforms for 1995 and 1996. We have focused on six areas of reform—enforcement, economic redevelopment, community involvement and outreach, environmental justice, consistent program implementation and State empowerment. The Administrator has provided extensive testimony to this committee on these initia-

tives earlier this year. However, I would like to highlight the efforts we are making with out Brownfields Initiative.

BROWNFIELDS

EPA's Brownfields Initiative is dedicated to the economic renewal and redevelopment of communities with contaminated properties. Far too often, sites which once provided the heartbeat of economic vitality to thriving downtowns are being abandoned for fear of the contamination which might lurk in the soils or the groundwater. These "brownfields," or urban wastelands, have been shunned by new industry and prospective developers who are understandably afraid they might inherit expensive cleanup liabilities for contamination they did not create.

EPA's Brownfield Economic Redevelopment Initiative is designed to turn that around, to encourage economic redevelopment through environmental cleanup. As industrial enterprises have left urban centers, joblessness has increased along with the number of abandoned, contaminated properties. Both are dangerous to our communities. Our Brownfields effort is designed to help communities in their efforts to eliminate potential health risks, improve standards of living, and help restore economic vitality to areas where these sites exist.

The first action we took was to remove almost 25,000 sites from CERCLIS, the Superfund site data base of potentially hazardous waste sites. These sites represent those that States and EPA has already screened and found to be of no further Federal interest. The mere fact that these sites have remained in CERCLIS has caused potential developers to shy away from them and many lending and real estate investment sectors have denied loans for businesses in or near CERCLIS sites as a matter of policy. The changes we have taken are designed to resolve one of the unintended consequences of Superfund. Owners and prospective purchasers can know which sites are no longer of Federal interest, and thus can work with their States to clean them up without having to worry about additional Federal cleanup liability. This in turn should assist in our economic redevelopment efforts.

Three Brownfields pilots have already been awarded—each through cooperative agreements of $200,000 over two years—to Cuyahoga County in Ohio, Richmond, VA, and Bridgeport, CT. Another fifteen will be announced this summer. So far, we have received over 100 pilot applications. We plan to award 50 pilots during 1995 and 1996.

Taken as a group, the 50 pilots, along with several other initiatives, will gain for EPA the local-level experience which will enable us to help revitalize other neglected areas around the country. Again, we have been charged to "learn a great deal about how we can restore urban communities." We will use the results of these initiatives to develop a Federal strategy for coping with urban brownfields from a Federal perspective.

INTERAGENCY COMMUNITY EMPOWERMENT

EPA is one of many Federal agencies committing resources to economic revitalization of urban areas, and we are coordinating our efforts with other agencies. Last summer, EPA established a support team to work with the U.S. Department of Housing and Urban Development and the Department of Agriculture on their empowerment zone programs. The programs are designed to demonstrate that sustainable development is possible by linking redevelopment and job creation to environmental improvement and responsible stewardship.

EPA has not only worked to advise the two awarding Departments about the environmental considerations in the applications, but will also work with those communities that win Empowerment Zone or Enterprise Community (EZ/EC) status to help ensure the environmental sustainability of their activities.

We are confident that the Brownfields initiative and Superfund reforms will lower many of the barriers to reclamation and redevelopment of urban lands by eliminating disincentives to buying and selling well-remediated properties; by facilitating voluntary cleanups to put land back into use; and by introducing procedures that will lead more quickly to cleanups more appropriate for the site and its future use.

EPA is charged with protecting human health and the environment. That does not mean we need to be the spoiler of the redevelopment of abandoned industrial property. After all, land redevelopment is one of the most important forms of recycling around. Brownfield redevelopment should not only lead to cleaned up inner city properties and preservation of our remaining green spaces, but should also stimulate local economic growth and thereby help reverse the cycle of decay which endangers our urban cores.

The recycling of inner city properties is, at heart, a local process. EPA is trying to find ways to keep Federal environmental laws, regulations and policies from

interfering in that process where possible, and we would certainly welcome advice from this Committee on other efforts we might consider undertaking.

We would do the public a disservice by promising economic revitalization only at the price of less protection. For our part, the Administration's initiatives advance economic reuse of Brownfields without compromising our ability to protect public health or the environment. We hope the States will be similarly successful developing their own Brownfields efforts.

FUTURE DIRECTION

State cleanup programs are developing and maturing. These efforts are evidenced by the build-up of staffs and infrastructure, as well as by the enactment of both statutory and regulatory frameworks. The sophistication of these programs can also be demonstrated by the simple day-to-day experience gained in directing cleanups. In Superfund, as in most other endeavors, the States are developing skill and experience and they are applying that knowledge through both traditional and innovative approaches. We believe the States should have that flexibility to continue and expand these efforts.

We believe that many States will seek more Superfund responsibility. We anticipate that several States in a short period of time can be ready to accept a program like that supported by the Administration. Other States could surely follow within the next few years.

We believe delegation offers the responsible parties, States, the environmental justice community, and other members of the public the assurance that the reforms crafted into a comprehensive reauthorization program will give States the tools to operate the program with reasonable, but modest Federal oversight, funding and assistance.

CONCLUSION

Thank you for the opportunity to address this Subcommittee. I will be pleased to answer any questions that you might have.

Mr. OXLEY. Mr. DiPasquale.

STATEMENT OF NICHOLAS DiPASQUALE

Mr. DIPASQUALE. Thank you, Mr. Chairman, members of the subcommittee. My name is Nicholas DiPasquale. I'm director of the Division of Air and Waste Management for the Delaware Department of Natural Resources and Environmental Control. I am also the Region 3 State representative to the Board of Directors for the Association of State and Territorial Solid Waste Management Officials and I'm here today testifying on behalf of the association.

Solid waste program managers have a fundamental interest in the dialogue surrounding reauthorization of the Federal Superfund program. As the day to day implementers of the State and Federal cleanup programs, we believe we can offer a unique perspective on reauthorization. And thank you for recognizing the importance of the State role in Superfund reauthorization.

Many States have developed very sophisticated and streamlined cleanup programs. Based on a 1992 survey, States have completed construction on nearly 3,000 sites, non-NPL sites, that is, and are actively working on an additional 11,000 sites. States have a proven track record for remediating contaminated properties.

With the exception of perhaps the Toxic Substances Control Act, CERCLA is one of the only major environmental laws not delegated or authorized to the States. The Resource Conservation and Recovery Act's hazardous waste and underground storage tank programs, the Clean Water Act, the Clean Air Act, and the Safe Drinking Water Act are all delegated in various forms to the States.

With the downsizing of government and the scarcity of resources, we can no longer afford to have two masters, as many have said

before, directing or confusing the regulated community on site cleanups.

To its credit, EPA has recognized the current situation and has recently proposed two partial solutions, the delisting of nearly 25,000 states from CERCLA's and the potential for Federal endorsement of State voluntary cleanup programs or brownfield redevelopment programs. U.S. EPA is hoping to provide a level of certainty to lending institutions and the redevelopment community by supporting these programs.

Incidentally, Mr. Chairman, ASTSWMO was very supportive of your bill last year addressing State voluntary cleanup programs. The bill clearly delineated Federal and State roles while still allowing for maximum diversity and flexibility among State programs. We hope this year's reauthorization bill will reflect the same confidence in existing and developing State programs.

At the same time, we believe the voluntary cleanup programs represent only a partial solution to a much bigger problem. As States are cleaning up more and more sites, particularly through the use of voluntary cleanup programs, the actual universe of sites which will require Federal attention is shrinking. Yet the jurisdiction of the Federal Superfund program remains the same.

In order to officially recognize and rectify this situation, ASTSWMO proposes the establishment of a comprehensive Superfund cleanup program implemented primarily by the States. The first step to achieving a comprehensive national cleanup program is to provide for the authorization or delegation of willing and capable State programs.

State programs are prepared to be fully accountable for the use of public resources and for the effectiveness of their cleanups but should be given wide flexibility in the ways in which they carry out these responsibilities.

We are aware of some recent proposals that amount to conditional preemption of State law. That is, attaching conditions to authorization and delegation that essentially would prevent States from implementing their own programs and serve to undermine these programs and negate the many benefits that are achieved through State flexibility.

We believe that flexibility in the authorization or delegation process will not preclude achieving consistency in how the Federal program operates or functions. Therefore we propose the following mechanism for implementing and operating an authorized or delegated Superfund program.

Congress would direct U.S. EPA to work jointly with the States to develop qualifying criteria for the authorization or delegation of the program to requesting States. We believe any authorization or delegation process should be kept simple and flexible and be consistently implemented.

Determination of State qualification would be made on a performance basis utilizing a self-certification model as Congress originally intended for the underground storage tank program rather than on a process or procedural basis. This will enhance the likelihood and opportunity for State innovation and improvement, thereby helping to ensure the desired end result, namely, the greatest

possible number of timely and protective site cleanups given the available resources.

Delegation and authorization should be strictly voluntary and all States should have the opportunity to qualify for either full or partial delegation or authorization.

The association recommends that States have the opportunity to apply for partial delegation or authorization since some States may not currently have the capabilities to assume the whole program but may be particularly efficient in certain areas of the program. For example, site assessment.

We believe partial delegation is a necessary step in the process in that it will allow States to grow into full delegation or authorization. States that choose not to seek either authorization or delegation should not be penalized in any way.

Each State would develop a registry of sites consisting only of those sites in the State that are contaminated above a certain nationally established target risk level, not potentially contaminated sites as is the case now with CERCLIS. These State registries would replace CERCLIS and the NPL. In essence, this would subsume those new Federal NPL and NPL caliber sites into the State system rather than extend the Federal program to cover the universe of State sites.

Mr. OXLEY. Would you summarize, please.

Mr. DIPASQUALE. Yes.

In addition to the State registries, we also would recommend the establishment of a public funding list for those sites where PRP's are not capable or willing to undertake the responsibility.

We also believe that program grants would be used to fund States, perhaps on a 2 year basis like the underground storage tank program currently has.

Mr. OXLEY. Your written statement will be made part of the record.

Mr. DIPASQUALE. If I could just summarize, I will be through in a minute.

ASTSWMO has championed a much more active State role in Superfund to include authorization or delegation of the Federal program to willing and capable States. However, both the State role and an improved remedy selection process depend entirely upon adequate funding, and enforceable requirements for cleanups by responsible parties. We believe there needs to be a strong liability standard to be a backdrop for State programs.

With that, I will let the written record stand. Thank you.

[The prepared statement of Nicholas DiPasquale follows. The position papers on Authorization/Delegation and Federal Voluntary Cleanup Initiatives are retained in the subcommittee files.]

PREPARED STATEMENT OF NICHOLAS DIPASQUALE, DIVISION DIRECTOR, DELAWARE DEPARTMENT OF NATURAL RESOURCES AND ENVIRONMENTAL CONTROL, AIR AND WASTE MANAGEMENT DIVISION ON BEHALF OF THE ASSOCIATION OF STATE AND TERRITORIAL SOLID WASTE MANAGEMENT OFFICIALS

Good morning. I am Nicholas DiPasquale and I am the Division Director for the Delaware Department of Natural Resources and Environmental Control, Air and Waste Management Division. I am also the Region III Board of Director for the Association of State and Territorial Solid waste Management Officials (ASTSWMO) and am here today representing ASTSWMO. ASTSWMO is a non-profit association which represents the collective interests of waste program directors of the nation's

States and Territories. Besides the State cleanup and remedial program managers, ASTSWMO's membership also includes the State regulatory program managers for solid waste, hazardous waste, underground storage tanks, and waste minimization and recycling programs. Our membership is drawn exclusively from State employees who deal daily with the many management and resource implications of the State waste management programs they direct. Working closely with the U.S. Environmental Protection Agency (U.S. EPA), we share the objectives of the Congress and the public in providing for safe, effective and timely investigation and cleanup of the many contaminated sites throughout the nation. We, therefore, have a fundamental interest in the dialogue surrounding the reauthorization of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) As the day-to-day implementors of the State and Federal cleanup programs, we believe we can offer a unique perspective to this debate and thank you for recognizing the importance of the State Role in the Superfund program.

EVOLUTION OF THE STATE ROLE IN CERCLA

When Congress enacted the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) in 1980, commonly known as Superfund, most believed the program would last for approximately five years and cleanup approximately 400 serious abandoned hazardous waste sites across the country. It is now fifteen years later, and the universe of known sites requiring remediation has greatly expanded. Today, it is estimated that there are over twenty thousand sites in this country in need of some sort of remediation. We believe the federal Superfund program will not address even the existing NPL sites in a timely manner, much less meet broader demands as more sites are added to the NPL. Of the approximately 1300 identified NPL sites, 292 have reached the construction complete stage.

In 1980, there were few of us who thought States would need to play a substantial role in the cleanup of the four hundred NPL sites, and States were just beginning to evaluate the need to develop their own cleanup programs. In 1986, the Congress reauthorized the Federal Superfund program for another five years. At that time there appeared to be a recognition that the clean up of these sites was complicated, time-consuming and required more resources than the Federal government could provide. Consequently, the Superfund Amendments and Reauthorization Act (SARA) mandated increased State participation in the program. Simultaneously, in response to the thousands of contaminated sites being identified nationwide that either could not wait for U.S. EPA attention or did not meet the Agency's criteria for inclusion on the NPL, many States developed their own Superfund programs. As of 1990, forty-one States had adopted a State Superfund law based on some form of liability, and forty-four States had developed funding authorities—two essential components to implementing an effective State cleanup program. We believe that the vast majority of the confirmed contaminated sites in this country are being remediated under State authority and that this will continue to be the case in the future. We offer as a measure of proof data results from a survey which ASTSWMO conducted with the support of the U.S. EPA. In 1992 ASTSWMO and the U.S. EPA agreed that while there was an abundance of data on Federal cleanup levels, there was a considerable gap in data on State cleanups. Therefore, a study was initiated and implemented for the purpose of providing a more comprehensive picture of Superfund-influenced cleanups, both complete and underway, and to lend credibility to the States' position asserting an increased role for States in the Superfund program. Specifically, the aforementioned survey was designed to measure the extent of State hazardous waste cleanup activity at non-NPL sites exclusive of those sites being cleaned up under RCRA authorities. All hazardous waste cleanup efforts performed by States/territories directly, under State/territory enforcement authority, and under State/territory voluntary and property transfer programs were eligible for inclusion in this data gathering effort. Thirty-nine States and two territories responded to the survey. Data results indicated that approximately 2,689 sites had reached the construction complete stage in these 39 States and two territories since the inception of Superfund in 1980. In addition, these States and territories indicated that they are currently working on another 11,000 active sites.

Many States have developed very sophisticated and streamlined programs. The debate over State role is very different in this reauthorization than it was in either 1986 or 1990, as States now have proven track records for remediating contaminated sites.

We, therefore, believe the current State Role provided for in CERCLA does not recognize the tremendous growth which has occurred in State capabilities over the last 15 years. For example, the State role at NPL sites can range from simply reviewing documents and providing the requisite State match funds at the time of the

construction of the cleanup remedy, to performing response actions, or to selection of a remedy and the signing of Records of Decision (RODS). However, the U.S. EPA generally has interpreted CERCLA to mean that only the U.S. EPA has the authority to select a remedy, regardless of whether a State was assigned lead agency status. In those few cases where a State has signed a ROD, the remedy was being implemented by a private party and Fund dollars were not being expended. Most States are also precluded from having significant influence over the listing process during site assessment, even though States are closer to the sites, more familiar with the site histories and geographical conditions and more aware of how the relative risk posed by any given site compares to that of other remediation sites (RCRA, LUST) located in the State.

CERCLA is the only major environmental legislation not delegated or authorized to the states. The Resource Conservation and Recovery Act's hazardous waste and underground storage tanks program, the Clean Water Act, the Clean Air Act and the Safe Drinking water Act are all delegated in various forms to the States. With the downsizing of government and the scarcity of resources, we can no longer afford to have two masters confusing the regulated community at a single site. For example, since States are not granted authority to select cleanup remedies enforceable under CERCLA, they must proceed solely under State cleanup laws with the knowledge that U.S. EPA subsequently may decide to select and enforce its own remedy if not satisfied with a State-selected remedy. Responsible parties are understandably wary of proceeding with cleanup activities directed by States without some assurance U.S. EPA agrees with the State's cleanup activities. This overlapping system has resulted in a duplication of effort between the States and U.S. EPA and has served as a deterrent for returning land to reproductive use. This situation has become strikingly clear as States have started to develop voluntary cleanup programs. To date, approximately 20 States have adopted or proposed legislation to establish voluntary cleanup programs. These programs are working, yet redevelopment is not occurring at the desired pace in our cities or townships due in part to the *threat* of federal intervention. U.S. EPA has recognized that the current situation has become untenable and has recently proposed two partial solutions: the delisting of over 20,000 sites from CERCLIS and the potential for federal endorsement of State Voluntary Cleanup programs. U.S. EPA is hoping to provide a level of comfort to the lending and redeveloping community through endorsed State Voluntary Cleanup programs. ASTSWMO was very supportive of Chairman Oxley's bill last year addressing State Voluntary Cleanup programs. The bill clearly delineated federal and State roles while still allowing for maximum diversity and flexibility among State programs. We trust this year's reauthorization bill will follow a similar theme of confidence for State programs.

However, we still believe that voluntary cleanup programs represent a narrow solution for a much bigger problem. As States are cleaning up more and more sites (particularly through the use of voluntary cleanup programs), the actual universe of sites which will require federal attention is shrinking. Yet, the jurisdiction of the federal superfund program remains the same. In order to officially recognize and rectify this situation, ASTSWMO proposes the establishment of a comprehensive Superfund cleanup program implemented primarily by the States.

ASTSWMO AUTHORIZATION/DELEGATION PROPOSAL

The first step to achieving a comprehensive national cleanup program, is to provide for the authorization or delegation of willing and capable State programs. State programs are prepared to be fully accountable for the use of public resources, and for the effectiveness of their cleanups, but should be given wide flexibility in the ways in which they carry out their responsibilities. we have heard of many proposals recently, which create voluntary preemptions of State law (i.e., attaching conditions to authorization and delegation which would amount to a preemption of State law), all of which will serve to undermine the many benefits achieved via State flexibility. We believe that flexibility in the authorization or delegation process will not preclude achieving consistency in how the program operates or functions. Therefore we propose the following mechanism for implementing and operating an authorized/delegated Superfund program:

A. Qualifying Criteria: Congress would direct U.S. EPA to work jointly with the States to develop qualifying criteria for authorization/delegation of the program to requesting States. We believe any authorization/delegation process should be kept simple and flexible and be consistently implemented. Sample criteria could include: sufficient personnel and resources to carry out the program; a review of past non-NPL cleanups ensuring that human health and the environment were protected; adequate legal authority to compel responsible party cleanups.

B. Determination of State Qualification: Determination of State-Qualification would be made on a performance basis utilizing a self-certification model as Congress directed for the Underground Storage Tanks program rather than on a process basis. This will enhance the likelihood and availability of State innovation and improvement, thereby helping to ensure the desired end result—namely the greatest possible number of timely and protective site cleanups given the available resources.

C. Partial Delegation/Authorization: Delegation and authorization should be strictly voluntary and all States should have the opportunity to qualify for either full or partial delegation/authorization. ASTSWMO recommends that States have the opportunity to apply for partial delegation/authorization due to the fact that some States may not currently have the capabilities to assume the whole program, but may be particularly efficient in a certain area of the program, e.g., site assessment. We believe partial delegation is a necessary step in the process of allowing more States to "grow" into full delegation or authorization. States which choose not to seek either authorization or delegation should not be penalized in any way.

D. State Registries: Each State would develop a registry of sites consisting only of those sites in the State that are contaminated above a certain nationally established target risk level, not potentially contaminated sites as is the case with CERCLIS. These State registries would replace CERCLIS and the NPL. In essence, we would be *subsuming those few federal NPL and NPL calibre sites into the State system, not extending the federal Superfund program to cover the State universe.* This is a very important distinction. Our intent is not to subject the majority of sites in this country to the time-consuming mandates of the federal superfund program. As State regulators, we have had to streamline our programs and recognize the concepts of future land use, cost considerations and presumptive remedies in order to address our vast universe of sites in a timely and equitable manner. States are in a unique position to explore innovative approaches to cleaning up the largest number of sites possible and we should establish a program which fosters and maximizes State flexibility.

E. Elimination of the NPL/Establishment of a Public Funding List: As sites enter State voluntary cleanup programs or are subjected to State enforcement authorities, the sites would be removed from the State Registry. The remaining sites would be prioritized for public funding and would be placed on a Public Funding List once it was determined that no responsible parties or other party were willing or able to pay for or conduct the cleanup. Through this process a "true priority list" of sites that require public financing for cleanup would be developed. Congress would continue to authorize the overall program funding levels and U.S. EPA would be responsible for distributing site-specific monies available each year. Each State implementing the program would receive monies from the federal trust fund (on a prioritization basis or under a grant formula) to address these fund-financed sites. States would have an incentive to resort to public funding only at sites where responsible parties are unwilling or unable to conduct the cleanup because the 10 percent State match requirement for remedial action would be retained for fund financed sites on the Public Funding List. It is our understanding that U.S. EPA data indicate that over 70% of NPL site starts are being conducted by responsible parties with governmental oversight. Some States indicate that nearly 90% of their cleanups are being conducted and paid for by responsible parties.

F. Program Grants: Based on the assumption that site specific cleanup funds will continue to be provided by responsible parties, the Federal Trust Fund and State cleanup funds, there will also need to be an investment in the building and maintenance of State cleanup programs. We believe the most cost-effective and cost efficient means of providing funding to States with authorized/delegated programs would involve the use of two-year program grants. The program-grant funding method that the U.S. EPA is using for the Underground Storage Tanks program has worked very well from both the State and Federal perspectives. A program grant should be equally as effective in the Superfund program as in the LUST program, as the large number of sites on a State Superfund registry should still be less than the current number of LUST sites. The program grant could cover items such as part of the State costs for administering the program, performing site assessment work (i.e., site identification and decision on the need to cleanup), enforcement activities, and/or emergency type activities. We believe State programs could perform the work for less cost either due to the fact that the State would perform the work without the services of contractors or because most States, contracting mechanisms are more streamlined than those of the Federal government.

G. EPA Role in a State Implemented Superfund Program: EPA would be responsible for administering the two year State program grants and the site-specific Public Funding List monies; establishing minimum program requirements for authorization/delegation in conjunction with State representatives; providing technical assist-

ance and training; establishing national guidance and policy; conducting research and training; and fostering the overall development of State capabilities.

EPA would also be responsible for compiling the State Registers in nonparticipating States and maintaining the Public Funding List. EPA would implement part or all of the program in States that choose not to participate or are not capable of participating. ASTSWMO firmly believes that authorization/delegation should be strictly voluntary and that nothing in our proposed concept should be forced on a State, nor should any State be penalized for a decision not to participate. We would envision that for a State which chooses not to participate the status quo would remain i.e., EPA would continue to remediate those sites which qualify for federal funding as they do today.

Lastly, in order to ensure that authorities and funds are managed appropriately by States, EPA would conduct audits of State programs on a predetermined basis.

ADDITIONAL ASTSWMO VIEWS ON VARIOUS STATE ROLE PROPOSALS

ASTSWMO has recently reviewed a purported draft copy of the State Empowerment Plan as introduced by the Administration. While we support the general concept of this proposal, we have several concerns that we feel must be acknowledged by the Administration and members of Congress.

A. I wish to stress that not all States will be capable of or interested in being authorized or delegated the Superfund program. ASTSWMO along with the National Governor's Association has consistently stated that this option should be strictly voluntary. The administration's proposal violates this principle on two parts. First, it creates a quota type atmosphere by explicitly stating that the intention is for 35 States to assume control of the program. At this point in time, I do not think one can project the number of States which will be interested in applying for authorization/delegation and false expectations should not be set. Second, the State Empowerment Plan seeks to penalize States who do not become authorized/delegated by manipulating the cost share for those which do assume the program. This is a particularly egregious scenario for those smaller States who do not have the program capabilities to be afforded the program. The U.S. EPA should not try to dictate a State's environmental priorities by forcing them to invest in a program which may not represent their most significant or problematic environmental problems.

B. The Administration proposal also seeks to reestablish a particularly bad provision contained in last year's Superfund Reform Act requiring States to pay 15% of all response costs including operation and maintenance. We found this provision particularly offensive during last year's debate for several reasons:

1. First, the majority of sites undergoing a Preliminary Assessment (PA) or Site Inspection (SI) are deemed not to require further Federal attention and are subsequently referred to the States for remediation. As of 1992, 22,876 sites have been transferred to the States. Under this new cost share system the State would have to pay 15% of the federal PA/SI and the entire cost of the State assessment. The federal assessment process does not assess the type of action required at the site, only whether the site will warrant Federal attention. The State, therefore, will pay for assessment work twice under this new system.
2. Second, this new cost share system which was deemed to be "revenue neutral" last year for the Federal government does not account for the costs spent by the States in remediating non-NPL sites. As of 1992, States had remediated 2,689 sites and were working on an additional 11,000 active sites. Of the 2,689 construction complete sites, States reported spending $650,000,770 for 2,167 sites.
3. Third, States would have a hard time working with the concept of "pay more now, save later". Over the years, some States would see a savings in their costs as their sites enter the operation and maintenance stage. However, all States would see their State cost shares substantially increased in the immediate future. In order to fund this new increase, resources would almost certainly be diverted from other State cleanup programs. Money will, therefore, be shifted from the cleanup of non-NPL sites to the cleanup of NPL sites.
4. Fourth, States would be responsible for cost sharing during all phases of a site's remediation which would require the State to seek funding from its legislature many times over an approximate ten year span. We think this would mean that in some fiscal years a State may have the money, but in other fiscal years a State may be unable to contribute its assigned share, forcing all work at a particular site or even at all sites within the State to stop. States may also be reluctant to cost share on items not pertaining directly to actual cleanup. A new method for cost sharing across the board which requires State program man-

agers to continuously add to appropriation requests, may not be compatible with a State's budgeting process.

C. Lastly, the Administration's draft proposal indicated that a State would have to pay the difference should the State standards be more stringent than those of the federal government. As ASTSWMO testified to this committee during the Remedy Selection hearing, State waste managers do support the concept of eliminating relevant and appropriate requirements (RARs), but only under a process where States will promulgate all relevant applicable standards, criterion and requirements in a separate rulemaking for use in the remedy selection process. We believe this will streamline the remedy selection process and provide a greater level of certainty to responsible parties. As these applicable standards would be consistently applied within the State, we find it a very troubling concept that sites on the National Priorities List (the worst of the worst) would not be subjected to the same State applicable standards as those sites not eligible for NPL listing. We believe this may be creating a reverse incentive to seek NPL listing where standards will be lowered rather than work with the State and meet all applicable state standards. I want to stress that these State applicable standards were designed to address specific conditions such as geographic and climatic factors which exist within a State. These standards along with all other applicable State standards promulgated to regulate either the conduct or operation of the remedial action are needed to adequately protect human health and the environment and should be used to the extent they are more stringent than Federally established cleanup levels. Preemption of State applicable standards, either summarily or as a condition for federal funding, would be a major mistake in reauthorizing CERCLA.

CONCLUSION

ASTSWMO has championed a much more active State role in Superfund, to include authorization or delegation of the federal program to willing and capable States. We have also examined the remedy selection and cleanup standards of Superfund in great detail, based on the extensive experience of our members. The result is a series of balanced proposals regarding standards, costs and future use considerations.

However, both a State role and an improved remedy selection process depend entirely upon an adequately funded, enforceable requirement for cleanups by responsible parties. If the federal liability scheme does not provide the resources necessary to convince States to seek to carry out the national cleanup program under CERCLA than our proposal for an appropriate State role will no longer be relevant. We look to Congress to ensure that the program remains viable, and provides States the incentives to assume their voluntary participation in this vital cleanup program. Further, we trust that Congress will carryout its responsibility of reauthorization in a manner that will complement and strengthen the many parallel State cleanup programs.

In closing, I want to be very clear that State Waste Managers agree that:

- Many States wish to be authorized or delegated the Superfund program where State actions will be measured on a performance outcome basis, not a process basis. Not all States will wish to assume a larger role in the Superfund process and should not be penalized or in any way mandated to undertake the federal Superfund program.
- States have a great deal of expertise and must be provided positive incentives to assume a greater role in the Superfund process. States must remain convinced that the reauthorization reforms provide for adequate site cleanup funds, effective cleanups that are protective human health, and do not have an adverse effect on ongoing work within State cleanup programs.
- Lastly, States view this reauthorization as an opportunity to end the two cleanup program system and to form a comprehensive, streamlined, State implemented program.

As States are fast becoming the primary implementors of hazardous waste laws in this country, ASTSWMO hopes that its recommendations will be given serious consideration during this 104th congressional session. We are available to assist the Committee Staff as you continue your deliberations on this important legislation. Thank you for allowing me to present a State perspective. To facilitate understanding of the State managers, views on reauthorization, I have attached copies of our Association's formal positions regarding State Role, Remedy Selection, and Liability, as well as a copy of the Non-NPL site cleanup survey referred to above, to the original record copy of this testimony. I would be happy to answer any questions you may have or to respond to any questions you may have for the record.

[The position papers on Authorization/Delegation and Federal Voluntary Cleanup Initiatives are retained in subcommittee files.]

Mr. OXLEY. Becky Norton Dunlop from the Virginia Department of Natural Resources.

STATEMENT OF BECKY NORTON DUNLOP

Ms. DUNLOP. Thank you, Mr. Chairman, for the invitation to be here to testify before you today. We appreciate these hearings as an opportunity to afford the Commonwealth and indeed all of the citizens of our Nation to work with you on dealing with this advancement of remedies to solve the Superfund program's problems and apply a little bit of common sense to this whole concept.

Let me begin by giving you Virginia's short answer to the question of what to do with the Superfund program. Simply send the program and the resources to the States. This is a short answer, and I will elaborate on it a little bit as we go along.

When George Allen became Governor of the Commonwealth in January 1994, the previous Governor, Governor Wilder, a Democrat, had submitted to our General Assembly the recommendation that the Commonwealth of Virginia revert the Superfund program back to the Federal Government. Governor Allen asked me to review this decision. I did so.

Our administration also concluded that given the onerous administrative responsibilities put on the Commonwealth by EPA and the concurrent lack of authority, there was nothing gained by the Commonwealth investing considerable time and talent to serve simply as an administrative arm of EPA.

Second, the Commonwealth serving as an administrative arm of EPA was inconsistent with the Tenth Amendment of the Constitution. The General Assembly, controlled by the Democrats in Virginia, concurred with that decision and the EPA program was effectively reverted to EPA. We in Virginia retained only a minimum staff that would be able to represent our citizens in dealings with EPA and meet the Commonwealth's legal obligations.

You have heard many horror stories about Superfund cleanups, and I certainly have my share of those to add to your records, but I will not go into detail. That will be in my written record so that you can have those available to you.

We do say, however, in Virginia that excessive Federal regulation is injurious to the environment, and Superfund certainly demonstrates this principle.

The goal of the Superfund program should be to reduce real risks to human health and to establish national guidelines that are sufficiently flexible to allow States to deal with the wide array of site- and situation-specific challenges that face them. In this regard, the current Superfund law has failed. Current law forces real risk to be ignored in the prioritization of sites for cleanup.

Let me add here that it is an issue of integrity that the Federal Government entities should not be exempted from the same guidelines applied to private people across our country.

Virginia has had 26 sites on the NPL. Of the 26, only 2 have been delisted. In the instance of one it was actually remediated by natural attenuation. And in the second no actual remedial action needed to be taken.

I have been told by many people that Superfund is the worst piece of legislation ever enacted by the U.S. Congress. There is no question that, using David Letterman's line, it certainly makes everyone's top 10 list.

The law lacks some of the most basic principles of sound environmental policy. It doesn't depend on sound science and application of risk assessment, remediation techniques and innovative technologies. It ignores that environmental problems are always site- and situation-specific and require site- and situation-specific solutions. It denies the fact that our natural resources are resilient and dynamic, and there is no connection with the people who, after all, are our most important natural resources.

The principles of reform I'd like to just share briefly with you.

Program responsibilities. In its current form Superfund cannot be delegated as that approach is commonly understood. We need to have the program rewritten, redesigned, and then turned over to the States.

We would imagine that the process would work in perhaps the following way. There would be a brief list, and we sense that it would be best if they were encoded in statute, of elements that each State would have to meet. Upon meeting those requirements, a State could simply notify EPA that they wished to have the sites and the program turned completely over to the State. The fundamental principle here is that the Superfund program must be turned over to the States.

National risk exposure guidelines. We think that it is very important to ensure some degree of consistency in result, as has been previously mentioned by speakers. Superfund should provide the means to establish national risk exposure guidelines provided on application of sound science.

Voluntary remediation and environmental audit. Mr. Chairman, Virginia recently enacted this kind of proposal. We would be happy to share that with you and your committee members. We think that Superfund legislation would be a natural place to encode these ideas into Federal law.

We think the National Priorities List should be frozen. We believe that States should be given the authority to review all existing sites on the National Priorities List.

With respect to funding, you've heard several outlines this morning. If the committee and the Congress is serious about giving the States the programs, we will certainly be willing to spend the time and work with your committee and the Senate committees on an appropriate funding mechanism.

Finally, reform the liability scheme. There is no question that the time has come for reform of the current liability scheme. The current scheme is flawed and unfair. It focuses on search for the guilty and gottcha tactics, not cleanup. Holding people liable for actions taken before 1980 makes criminals out of citizens who in many cases were acting in good faith and according to the law. We need to work to change that effectively.

So, Mr. Chairman, in conclusion, just let me say that many States, including Virginia, are ready and willing to take over this program. Some States might have a bit of sensitivity about taking it on and certainly don't want to be perceived in the eyes of EPA

as an enemy. So there is some anxiety about public statements with regard to States. But I think that all in all as you work to resolve this program and turn it over to States you'll find that there are many of us who are willing to take on this responsibility now, and we are willing to work to convince other States that it is in their best interest for the long term.

Thank you very much.

[The prepared statement of Becky Norton Dunlop follows:]

PREPARED STATEMENT OF BECKY NORTON DUNLOP, SECRETARY OF NATURAL RESOURCES, COMMONWEALTH OF VIRGINIA

Thank you for the invitation to testify before you today. These hearings offer the Commonwealth and the nation a unique opportunity to remedy the disastrous problems that have plagued the Comprehensive Environmental Response Compensation and Liability Act, commonly known as Superfund, and apply common sense to the program. The subject is an important one to those of us who have responsibility for administering natural resource agencies at the state level.

Let me begin by giving a short answer to the question of what to do with the Superfund program—send the program and resources to the states.

That is the short answer, but let me provide some history of the Superfund program in the Commonwealth of Virginia and some more detail on how to fix its numerous problems.

When George Allen became Governor of the Commonwealth in January 1994, the previous administration under L. Douglas Wilder, a Democrat, had submitted a budget that reverted the administration of the Superfund program back to the federal government.

Governor Allen directed me as Secretary of Natural Resources, to review that decision. I did and our administration also concluded a) that given the onerous administrative responsibilities put on us by EPA, and the concurrent lack of authority, there was nothing to be gained by the Commonwealth investing considerable time and talent to serve as an administrative arm of the EPA, and b) the Commonwealth's serving this role was inconsistent with the Tenth Amendment of the Constitution, that the General Assembly should follow-through with this action. Virginia retained only the minimum staff necessary to effectively represent the concerns of our citizens and meet the Commonwealth's legal obligations.

Governor Allen made clear to the citizens of the Commonwealth that he would stand up to the federal government when it exceeds its constitutional authority. The Superfund program, like several other federal programs Virginia has spoken out on, is yet another instance where the federal government has done violence to important constitutional principles. The Allen Administration is deeply committed to the principles of Federalism, and Congress has heard a lot from Virginia on these issues. These hearings on the reauthorization of the Superfund program, in the context of the 104th Congress, provide a rare opportunity for fundamental change. As those of us who observe Superfund on a regular basis know, the current program is fatally flawed. Not only does it do violence to the Tenth Amendment, it also fails to achieve its very purpose.

The horror stories about Superfund clean-ups are far too easy to come by—we have all heard accounts of millions spent for nothing gained. In my travels around Virginia and visits with constituents in the past year and a half, I have heard first hand from businesses and environmental groups of Superfund dysfunction. As elected officials, I am sure you are very familiar with such anecdotes. I often say that excessive federal regulation is injurious to the environment. Superfund is proof of this maxim.

At the Saltville Superfund site in Virginia, the remedy proposed by EPA was believed by Virginia's Department of Environmental Quality to pose a higher short term risk to human health and the environment than the Potentially Responsible Party's proposed remedy. Additionally, the remedy handed down from EPA was not supported by the community. In another instance, at the H&H Burn Pit site, EPA's proposed remedy was based on a narrow interpretation of the hazardous waste regulations. A more broad definition would have yielded a savings of six million dollars with no real increase in risk.

At the Greenwood Chemical Company site the Commonwealth was prepared to move forward with a remedy selected in 1989. After four years of review, in 1993 EPA reported that there was more contamination than originally thought. The result was that potential technologies were not properly evaluated because of inad-

equate review of the site by EPA. Because of the delay and inappropriate technology selection, it has taken until 1995 to get EPA to agree to allow remedy of the site to begin. EPA is finally, six years after Virginia concurred with the remedy selection, proceeding with implementation of remedial action. EPA's poor initial evaluation of the extent of contamination has cost the taxpayers 200% more or $32 million (10% percent of this cost is to the Commonwealth).

THE GOAL OF THE SUPERFUND PROGRAM

The goal of the Superfund program should be to reduce real risks to human health and to establish national guidelines that are sufficiently flexible to allow states to deal with the wide array of site and situation specific challenges that face them. The current Superfund law has failed. Current law forces real risk to be ignored in the prioritization of sites for clean-up. And it is an issue of integrity, that federal government entities should not be exempted from those guidelines.

The Superfund law has a misplaced emphasis because it employs a standard of hypothetical future risks for sites, without regard for actual or likely risks. This is a symptom of a problem that the Commonwealth often encounters when dealing with the usual command and control regulatory policy of a federal government that consistently prescribes one-size-fits-all solutions to complex site and situation specific circumstances.

Since the Superfund law was enacted in 1980, more than 1,200 sites have been listed, but only about 278 have been cleaned up at a cost of nearly $30 billion. I dare say that states could engage in many actions to advance remediation of our highest risk sites for Virginia's share of $30 billion. Virginia has had 26 sites on the NPL. Of the 26, only two (Matthews Plating and Suffolk City Landfill) have been delisted. In the instance of the Matthews Plating site, it was actually remediated by natural tenuation.

I have been told that some believe that Superfund is the worst piece of legislation ever enacted by the U.S. Congress. There is no question that CERCLA makes everyone's top 10 list. The law lacks some of the most basic principles of sound environmental policy:

- it doesn't depend on sound science in application of risk assessment, remediation techniques and innovative technologies
- it ignores that environmental problems are always site and situation specific and require site and situation specific solutions
- it denies the fact that our natural resources are resilient and dynamic
- there is no connection with people—our most important natural resource

THE PRINCIPLES OF REFORM

Program Responsibilities

In its current form, Superfund is not a program that can be "delegated" as that approach is commonly understood. The states and their localities obviously have the greatest interests in keeping sites off the National Priorities List (NPL) and returning Superfund sites to productive uses. In contrast, the federal government has every incentive to expand the NPL and keep sites on it as long as possible. Since money received from potentially responsible parties is essentially off budget, EPA regional staff have been given maximum incentive to hunt for deep pockets and minimum incentive to close sites. It has been estimated that between one-half and two-thirds of the time of attorneys working on Superfund in the Justice Department is taken up by the search for potentially responsible parties.

The most effective solution for improving the current system is to allow the individual states to take control of the sites within their borders. This approach must go beyond traditional notions of program delegation.

We would imagine the process working in the following way. There would be a brief list—encoded in the statute—of elements that each state would have to meet. Upon meeting those requirements, a state could simply notify EPA that they wished to have the sites and the program within a state turned over completely to the state. We also expect that such a system would allow states to adopt only a portion of the program—for example, perhaps only remedy selection.

Given the federal government's failure in this program, we believe it is appropriate for Congress to clearly demonstrate that the legislative branch, not EPA, will ultimately determine of who ought to control this program.

The fundamental principle is that the Superfund program must be turned over to the states. The granting of authority to states must go beyond the traditional notions of program delegation. We can administer this program with greater equity, practicality and certainly more cost effectively.

National Risk Exposure Guidelines

To ensure some degree of consistency in result, Superfund should provide the means to establish a national risk exposure guidelines based on application of sound science. This will ensure that all citizens will be provided with the same level of protection. This does not mean clean-up of all sites to the same degree, but rather to mitigate real risk to the same degree. Clean-ups ought to be able to achieve lower levels of risk only if the owner, operator, or potential owner consents to such a clean-up plan, or if a state is willing to pay for the added costs to reduce such risks. For a national risk scheme to work, the future use, or potential future use of a site must become an essential factor in all decisions related to site clean-up.

The Risk Based Corrective Action approach—already endorsed by EPA—is the best summation currently available of the sort of approach reauthorization should take with respect to risk guidelines. RBCA is a flexible approach that permits site clean-ups to be managed on the basis of common sense, sound science, and science-based risk assessments. RBCA was developed by the American Society for Testing and Materials, an independent organization which has been issuing standards for science and engineering since 1898. Virginia is already successfully using such an approach in its Underground Storage Tank program.

Voluntary Remediation/Environmental Audit

Virginia has recently enacted a Voluntary Remediation/Environmental Audit law. States have taken the lead on this issue. We believe this law will serve us well in Virginia. The cleanup process will be streamlined, the regulatory approach is non-confrontational and emphasis is placed on achieving compliance—not heavy-handed enforcement actions.

Voluntary remediation, and its companion, environmental audit privilege, have been recognized as excellent ideas by all levels of government. The recently codified program in Virginia has been very well received. This experience has convinced me that we can harness the tremendous power of the marketplace by removing the disincentives that "good actors" currently face. EPA is on this track as well, as witnessed by their recent self-disclosure policy. We believe that Superfund legislation is the natural place to encode these good ideas into federal law.

Freeze the National Priorities List

Superfund was created to address hazardous waste management practices, before 1980. The list should now be complete.

Newly identified sites should not be added to the NPL but be addressed under the Resource Conservation and Recovery Act (RCRA) corrective action program. Continued listing of sites has led to the duplication of effort between the states and EPA especially when the state has an active voluntary remediation program. At non-NPL sites the state is the lead agency, mostly because there is little if any oversight by EPA. However, once the site is listed on the NPL, EPA can step in order additional or conflicting remedies. If the listing process is stopped, there will be a clear understanding of where the responsibility lies for contaminated sites not currently on the NPL. It also ensures that cleanups that have begun are not disrupted by potential nomination of the site to the NPL.

Review all existing sites on the National Priorities List

Once a national risk exposure guideline has been developed it should be the purview of the states to reevaluate sites on the National Priorities list according to the new guidelines. The essential consideration of the future use, or potential future use of a site, is likely to dramatically alter the prioritization of sites within the NPL.

Reform Liability Scheme

The time has come for repeal of the current liability scheme. States who opt to run their own program and who experience a program operated with funds derived solely from an extension of the tax will be unlikely to adopt as misguided a liability scheme as we now have. If that concern—that states will continue such a scheme—is a barrier to sending the program back to the states, then the scheme should be prohibited nationwide.

The retroactive liability scheme currently employed is flawed and unfair. The current liability approach focuses on the "search for the guilty" and "gotcha tactics," not clean-up. Holding people liable for actions taken before 1980 makes criminals out of citizens who, in many cases, were acting in good faith. The appropriate concern of the states is to ensure that the maximum amount of resources are applied to remediation, not diverted into fruitless (and often times endless) searches for responsible parties. EPA's own estimates have been that 47 cents of every dollar spent in the program is spent on transaction costs, not on cleanups.

Funding

There are many funding mechanisms currently being discussed and evaluated. I believe that the array of options would certainly provide sufficient mechanism to fund clean-up projects for state implementation of the program.

CONCLUSION

Virginia is ready to take on the challenge of administering Superfund. I say this not as an affront to EPA, but as a statement of fact. Virginia, like many states, has excellent departments, agencies and employees handling environmental programs at the state level. Twenty five years ago when EPA was created, states were not in a position to engage in the administration of environmental programs. Since that time all states have created an agency equipped to deal with such issues. We've come a long way, and in the Commonwealth of Virginia we are ready to meet this challenge. With states administering the program, as problematic sites are remediated, states would be able to let corporations and individuals invest money in new technologies designed to enhance our environment. This would provide an incentive that would encourage states to proceed quickly and effectively with clean ups.

There may be many states that are indeed ready to take over responsibility for Superfund. Some smaller states or states with few sites may not be prepared for such responsibilities and, as I mentioned earlier, Congress needs to define how those situations will be handled. There will also be states that are capable of taking on the vast majority of Superfund administration, but anxiety about EPA's reaction to public statements of intent runs deep among many state officials who have much to lose.

When I took office, I promised that I would never ask another level of government to take the heat for an environmental regulation if I believed it was the right thing to do. I still adhere to that principle. At the same time, Virginia will not, nor should other states, cower from their obligation to speak up when public policy is off track, the taxpayers are not getting the most for their money, and wrongheaded environmental regulations are placing needless burdens on business, industry and individuals.

Mr. OXLEY. Thank you.

Our next witness is Mr. Jim Strock from the California EPA.

STATEMENT OF JAMES M. STROCK

Mr. STROCK. Thank you, Mr. Chairman. On behalf of Governor Wilson, we want to thank you for the hearing and for including California's views and for your leadership on these issues. It's a pleasure to be here in the 15th year of this prospective 4 year program that began in 1980.

I think as we go forward it's important to reemphasize what I think everyone has agreed upon up front, and that is that the program has been manifestly unsuccessful in meeting the primary goal that was set when it was passed, and that is the restoration and return to productive use of large-scale abandoned waste sites.

I think also, as we are all very mindful, Superfund has also proven to be very positive for some sectors that are not conventionally viewed as productive in the tremendous creation of what people here call transaction costs, what other folks call wasted money. There is no question this needs to be dealt with very firmly, and it also points to the need for areas for reform.

A few points up front, if I might.

I would like to briefly go through the issues of State role, of the liability system, and the remedial considerations, but I think it is important to emphasize to the committee, as you all have wisely seen by the way you have scheduled the hearings, that these are interrelated factors and any single part must be dealt with in connection with the other parts. They can't be taken separately.

With respect to State programmatic responsibility, we believe firmly that the States should be established as the leads in this area. In retrospect, I think it is clear that this is a land use program that clearly ought to be done at the State and local level.

There was a fundamental misunderstanding as we got started and I think many of the results flow from this. The fact that the States are often doing better also flows from this, so it shouldn't be a surprise to us. But I think we would urge very strongly that the Congress consider not having EPA grant delegation or stand far away in some kind of judgment of the States as supplicants but that the States acknowledge and enable State leadership in this area, which in many States is the key to the program.

I would also urge the committee to please bear in mind carefully that with respect to the Federal Government's own role as a tremendous polluter, which has been significant across the country, that full cleanup be done. They should not be held to a separate or easier standard. Again it's back to land use. They should not in effect usurp State and local land use authority through inadequate remedies that would simply limit the options for very, very many of our citizens.

I would also urge the Congress to consider as it delegates or authorizes the program that it do so in a way that allows for continued State legal innovation. We have had tremendous innovation in California, as Mr. Bilbray and others who have been leaders in this are aware, and we think it ought to be carefully done so that our experiences not be frozen, that we be allowed to continue to innovate.

Second, on liability reform, several basic issues we hope might be considered. The prospective application of strict joint and several liability which is consistent with traditional legal principles on dangerous materials has done well in working to prevent additional spills, leading to rapid cleanup, pollution prevention, and the like.

The key question here is the retroactive application of that principle, which by definition cannot affect behavior and in practice has often been unproductive, particularly in delaying cleanup and settlements at older industrial sites that by definition often have a great deal of older practices behind it.

When you consider retroactive liability reform, we would urge that you consider a number of factors as you balance them. One might be the timing of the retroactive imposition. Another is the type of party that might be included or excluded. Likewise, the type of conduct. And there are also, of course, very significant issues with respect to insurance mechanisms and adjustments, and also how this would be connected with remedy reform where many of the costs might indeed be recovered from a retroactive liability adjustment.

Finally, with respect to remedy selection, we would urge very strongly again that the focus be on land use, because when it is done that way and when we begin from the clear standpoint of protecting human health, we can have a much more effective, faster program.

In closing, two final points.

One is to urge the Congress to please consider simplicity. Many of the problems of this law, and I think most people who open to

any page and can't understand a word of it realize this, come out of the fact that you have to have a tremendous expert to get you through the most basic activity. That, I think, leads to many of the problems, from lack of accountability all the way to these transaction costs, and also, I think, leads to fairness issues.

Also, I think it is important for the Congress to focus on some of the environmental technology aspects of this. Mr. Bilbray has been a leader in this area, and San Diego has done many things in this area. But the fact is, particularly because of the water pollution aspects of these kinds of sites, there are tremendous opportunities in lesser developed countries, including our neighbors and others, to replicate our program, but other places are not replicating this program because it simply doesn't work. That should be a warning sign and also an advance notice of a tremendous opportunity that we ought to seize.

Thank you very much.

[The prepared statement of James M. Strock follows:]

PREPARED STATEMENT OF JAMES M. STROCK, SECRETARY, CALIFORNIA ENVIRONMENTAL PROTECTION AGENCY

Mr. Chairman, distinguished Members, I am Jim Strock, Secretary of the California Environmental Protection Agency. I appreciate the opportunity to share the views of the Wilson Administration on reform of the federal Superfund law.

As the first step in considering Superfund, we must acknowledge that the program has been notoriously unsuccessful in meeting the primary goal set in 1980: the restoration and return to productive use of large-scale, abandoned waste sites which lacerated our nation's land. Despite the spending of immense sums of public and private money, likely more than $20 billion, fewer than 300 sites on the U.S. EPA's National Priorities List of risk-ranked sites are at the so-called "construction complete" stage. With more than 1300 sites on the NPL, Superfund bids fair to last far into the next century—far from the "temporary" program of five years or less initially envisioned by the Congress in 1980.

And that is far from the end of the problem. Superfund may be slow in meeting its core mission, but it has proven very positive indeed for lawyers and assorted other consultants and advisers who have pocketed unprecedented fees—politely called "transaction costs" in Washington—as they guide their fellow citizens through the arcane paths of this program. The immense transaction costs, combined with necessary cleanup costs, assure that Superfund consumes a disproportionate amount of our nation's environmental investment. The slow pace of action, coupled with the enormity of liability, can literally lock up old industrial areas—the areas meant to benefit from Superfund—adding an inadvertent but potent incentive to the environmentally unjustifiable and economically unnecessary development of greenfields.

One must wonder if Superfund is a diabolical plot, hatched to discredit our nation's remarkable environmental achievements. It is hard to imagine that Congress, faced with the facts of the present program, would have adopted it in the same form in 1980. It is even harder to imagine Congress not acting to reform the program after 15 years. I would like to present several principles for your consideration.

1. State Programmatic Responsibility. The single most important issue for reform is the subject of your hearing today: the role of the states. In retrospect, it perhaps should have been clear that Superfund is fundamentally different from other national environmental programs: it is a statute concerning land use, always a matter of state and local prerogative. Various bodies that have looked at state cleanup programs, from ATSWMO to the Environmental Law Institute, have found a strong record in numerous states. For example, in California, our Toxics program has completed cleanup of more than 250 sites since its inception in 1980 (by comparison, the U.S. EPA's has brought 4 California sites to this point). Many of these sites were comparable to those on the NPL—and these numbers do not include the cleanup of more than 7000 leaking underground fuel tanks or other Cal/EPA cleanup programs. Nearly 600 "removal actions" have been undertaken, with an additional 2,000 emergency response actions.

State programs have considerable advantages over the national government cleanup efforts—advantages worth building upon. We are accountable to the public for continuous improvement. One example: Governor Wilson worked with legislative

leaders to cut through a welter of state and local regulatory authorities, providing in statute for selection of a single lead agency for cleanup. Another example, is the state's Voluntary Site Cleanup Program, by which project proponents (often in redevelopment projects), earn state approval of completed projects, thereby meeting the requirements of lending institutions.

Perhaps the boldest innovation is a new law, passed in 1994 and signed by Governor Wilson, known as SB 923 (Calderon). We are now receiving applications for participation in this 30-site pilot, which is based on proportional liability, arbitration rather than litigation, land-use based cleanup standards, community involvement, and coverage of "orphan" shares.

The fundamental land use focus of Superfund, combined with the performance of the states in hazardous waste cleanup since 1980, strongly points to a shift of the federal program to the states. There are several options here—ranging from authorization, to a delegation similar to other environmental laws, to a differential system based upon the needs and abilities of the states. The key is that maximum flexibility be accorded the states who have demonstrated leadership.

2. Liability Reform. Superfund is basically a legal experiment: a national public works program driven by litigation. Its liability scheme is the integument which connects the parts of the program, however it may be otherwise reconfigured.

The strict, joint and several liability aspect of Superfund—whereby any single party can become liable for cleanup, then able to seek contribution from other parties—is consistent with longstanding legal principles concerning hazardous materials. This section of the law may be credited with Superfund's clear successes in reducing the use of toxic substances and catalyzing immediate cleanups of new spills.

The retroactive component of Superfund makes the overall liability without precedent. This has not worked as intended. It has doubtless dramatically increased resistance from parties who feel it is patently unfair to have to pay for conduct that was not illegal at the time of commission. The additional liability cost can serve a further incentive to fight cleanup as long as practicable. This provision merits careful scrutiny by the Congress.

3. Remedy Selection: The third major issue is remedy selection. This is, of course, the ultimate indicator of the necessity for state primacy in hazardous waste cleanup. The federal government has spent more than a decade debating, dictating, reconsidering and refining its judgments on how cleanups should be conducted. In many areas, particularly urban areas, the question is not "How clean is clean?" but "How long is long enough?" The question of remedy selection should follow a threshold determination of prospective land use.

This single change can have dramatic effects. From it, issues of cost-effectiveness, development of uniform risk assessment protocols, and the need to streamline decisionmaking procedures and to assure community involvement all become more clearly focussed and more readily resolved.

In conclusion, I urge the Committee to give serious consideration to making Superfund a state rather than federal government responsibility. Obviously, the states will seek assurances that such a shift not be used by the federal government to escape its responsibility for the many sites it has blighted and is obligated to restore to the sovereign states. And sufficient funding must be transferred to make certain that the job can get done. That being said, it should also be recognized that the limitations of the federal government's Superfund experiment—the immense transaction costs (relating to liability and remedial issues), the remedial actions based on theoretical and unpredictable bases too far removed from prospective land use, and the fruitless, de facto attempt to make state and local land use decisions in Washington—provide the possibility for creative, major reform with significant cost reductions.

Mr. UPTON [presiding]. Thank you, Mr. Strock.

Ms. Norton.

STATEMENT OF GAIL NORTON

Ms. NORTON. Thank you, Mr. Chairman, members of the committee. I thank you for the opportunity to be here today to urge increased State and local involvement and control over the Superfund program.

As Attorney General for Colorado for 5 years, I have been involved in the negotiation and litigation of many hazardous waste

site cleanups. I have also served as environmental committee chair for the National Association of Attorneys General.

Colorado has experience in dealing with Superfund sites, from mine sites that date back to the 1880's to complex sites like the Rocky Mountain Arsenal and Rocky Flats.

Our experience with the historic mine sites has been an important one, and that is that Colorado as a State has taken the lead on cleanup of most of those sites. The only one of our historic mine sites that has not yet been resolved and that is not yet on the road towards a solidly defined cleanup is the site where the EPA is in charge. The other sites have been cleaned up and are being cleaned up by the State. So I have seen the frustrations and the successes of the Superfund system.

I would urge three models for State role and I would hope that States would be able to choose which model best suits them.

The first would be for those States that have a strong interest in having their own hazardous waste law program. That would allow them to apply their own State law with some federally defined standards. I would urge that there be maximum flexibility for the States to design their own programs.

The second model that I would hope to see in the law would be a delegated program much as we have for the Clean Water Act or Clean Air Act. There are States like Colorado that do not have their own hazardous waste law but would hope to continue participating in this program as we have.

The third would be for those States that do not wish to participate or to take responsibility beyond the current review and comment role that exists at most States. The State would review documents produced by the responsible parties and by EPA and EPA would have the final decision on cleanup.

I would urge the committee to allow these choices to be made on a site by site basis by the States. It is very important, as other witnesses have mentioned, that we have one master at a site.

Colorado had an experience at the Globe ASARCO site where we were negotiating with the responsible party for a remedy, and that remedy includes an innovative air emissions program that would allow the best health benefits to come from the money expended in our cleanup. We were constantly aware of EPA looking over our shoulders and making it difficult for us to reach a firm negotiated settlement.

I would also like to address the issue of Federal facilities. Sites like the Rocky Mountain Arsenal and Rocky Flats are an unfunded mandate on States. They are the Cold War mortgage, and States are involved in working with the Federal Government in trying to clean up those burdens that have been placed on the States. State oversight of those facilities makes sense.

The State of Colorado along with a number of other States participated in a meeting to develop proposals from States so that we can present some proposals for dealing with Federal facility sites in an effective manner. We have not yet fully finalized those but we do have core agreement on several principles.

There should be appropriate exercise of State oversight. Federal facilities should be treated in the same manner as private busi-

nesses. There must be some form of effective oversight and they must have to follow the same rules as private parties would follow.

The EPA is not in a position to provide effective oversight. It cannot sue a sister agency; it does not have the ability to provide the same kind of oversight that private businesses must face.

Finally, we would work to streamline the process so that we can integrate State and Federal laws and authorities. For example, so that the CERCLA and RCRA processes can be designed to work together and not have wasted steps in the process.

We need to end the waste in the cleanup of our Federal facilities. We should do so by attacking the waste directly and not by continuing Federal oversight that is not effective.

Because of the local nature of hazardous waste contamination, more so than air pollution or water pollution, it is a program uniquely designed for a large State role. These programs should allow the States to be innovative and creative. Those are things that we sorely need to be able to clean up the hazardous waste problems facing our Nation.

Thank you.

[The prepared statement of Gale Norton follows:]

PREPARED STATEMENT OF GALE NORTON, ATTORNEY GENERAL, STATE OF COLORADO

Thank you for the opportunity to testify on state role issues related to the reauthorization of the Comprehensive Environmental Response Compensation and Liability Act (CERCLA). Appropriate definition of the role of the states in implementing a reauthorized statute is not only essential to state officials but is a linchpin of meaningful superfund reform for all stakeholders.

In 1993, when I was chair of the Environment and Energy Committee of the National Association of Attorneys General, we approved a resolution to amend CERCLA to provide for greater and more effective state participation in CERCLA cleanup actions. That resolution urged Congress to amend CERCLA to allow qualified states to exercise decision-making authority at superfund sites. With regard to federal facilities in particular, the resolution also urges Congress to clarify that sovereign immunity under CERCLA is waived at those sites.

State authority at federal and private sites and the waiver of sovereign immunity at federal facilities are two topics I would like to focus upon today. In addition, I want to address briefly the issues of public participation and integrated approaches to interagency agreements as they relate to CERCLA cleanups. Some of the proposals I will suggest in connection with these issues are strictly my own. Most, however, were developed in cooperation with other state officials and attorneys general.

BACKGROUND

In 1980, Congress took ambitious action in enacting CERCLA—believing that with this tough new law and significant funding, the country could clean up its toxic waste dumps within the decade, thereby improving the health of its citizens, the quality of its environment, and the economic viability of its communities.

We were wrong. Where once we believed there were hundreds of contaminated sites; EPA has now identified tens of thousands. As superfund enters into its fifteenth year, it is clear that these sites cannot be cleaned up within a few years, but rather will require a long-term, on-going commitment. The realization of the magnitude of the scope and duration of this commitment leads inevitably to the conclusion that, like all other environmental laws, superfund is more appropriately implemented by the states.

In fact, even more so than air and water pollution or hazardous waste generation, the cleanup of toxic waste sites under superfund is fundamentally a state concern. The members of the regulated community, who have sites undergoing cleanup in several different states, understandably desire some uniformity of approach to standardize and simplify their decision-making process. However, the impacts of these decisions are felt locally by the members of those communities that live nearby superfund sites. Successful cleanups require a decision-making process that accommodates intense local involvement and that allows remedies to be tailored to

site-specific conditions. States are better situated than the federal government to provide a process that addresses local concerns and evaluates site-specific conditions. States are, thus, best qualified to identify appropriate solutions and oversee cleanup efforts, taking these factors into account.

This Congress, more than any other in decades, has recognized the necessity of redistributing power from the federal government in Washington D.C. to the state governments. I strongly support that movement. States are closer and more accountable to their citizens; they are more efficient and less bureaucratic than their federal counterparts; and they are more flexible, dynamic and creative. The states act as laboratories for new ideas and aproaches; approaches that are often adopted by the federal government after they have proven their effectiveness at the state level.

Colorado, like other states, has numerous toxic waste sites within its borders. Over the last decade, we have worked—often with inadequate resources and authorities—to get those sites cleaned up. In 1983, we brought seven major CERCLA lawsuits. Today, all but two of those lawsuits are settled with major cleanup milestones achieved. It is instructive to note that the two sites still not cleaned up are the two where the federal government has lead responsibility, the Rocky Mountain Arsenal site and the California Gulch mining site. Where the State has the lead decision-making authority at a site, cleanup gets done effectively and efficiently.

The Idarado Mine site is an example of a successful State remediation. A 1992 consent decree between the State and the responsible party sets out a phased approach to cleanup. This approach was adopted, with extensive public involvement, in order to minimize environmental and community disturbance resulting from cleanup, while ensuring a protective and cost-effective remedial program.

Under the phased remedial approach, Idarado will implement specified initial remedial activities and will conduct environmental monitoring to determine the effectiveness of these cleanup measures. There are set measurable performance objectives for the various remedial activities such as tailings pile revegetation and mine water remediation that are protective of human health and the environment. If the initial remediation does not achieve these performance objectives, Idarado is required by the consent decree to implement further remedial measures to achieve the objectives.

The Asarco Globe site in Denver is another example of a successful state-supervised cleanup. At this site, various metal refining operations were conducted for more than 100 years. Colorado negotiated a settlement which provides for extensive cleanup of soils contaminated with lead, arsenic, zinc and cadmium. The remedy also reduces plant site air emissions from ongoing operations by 88% and includes an extensive medical monitoring program for community residents. Although such measures are not normally included in CERCLA remedies, the parties determined that reduction of air emissions would achieve the greatest risk reduction for the money, and medical monitoring would address one of the community's primary concerns.

The above-cited examples show that states, working with local authorities, can carry out more effective and efficient cleanups than the federal government. Because of the pressing national need to expedite reasonable, thorough, protective but efficient remedies at the thousands of contaminated sites throughout this country, we urge Congress to amend CERCLA to enable states to assume the responsibility for cleaning up sites within their borders, especially at federal facilities. We also urge Congress to provide for greater public participation in cleanups. In this testimony, I will first address state authorities and public participation and, then, turn specifically to federal facilities.

ACHIEVING MORE EFFECTIVE STATE AND PUBLIC PARTICIPATION IN CLEANUPS

State Authorities

We recommend that a reformed superfund law allow a state to choose among three models for state involvement in cleanup efforts, depending upon the state's priorities and capabilities.[1] For those states that have been active in environmental regulation and have demonstrated their capability to enforce proven and efficient state cleanup programs (such as corrective action programs), deferral to such state programs is desirable. Under this model, states might be required to meet performance standards identified under the reauthorized superfund program, but could achieve those standards by utilizing their own proven methods and processes.

Where states do not have their own state cleanup laws, or the laws are not of sufficient scope to cover all requisite activities at a contaminated facility, states

[1] The Association of States and Territorial Solid Waste Management Officials (ASTSWMO) endorses a similar scheme in its proposal communicated earlier this spring.

should be able to seek and receive delegation of EPA's CERCLA authorities. Under this model, states would be required to apply the law as reflected in the federal statute.

Lastly, states that are not prepared to assume oversight authorities, or states for whom cleanup is not a priority, could choose the existing role of meaningful participation under CERCLA. This role essentially consists of review and comment on documents prepared by the responsible party or EPA; the decision-making authority ultimately would rest with EPA.

At private party sites, states should be able to choose among the three models discussed above. Where a state desires either total deferral or delegation of CERCLA authority at a federal facility, however, we recommend that the transfer of authority to the state be automatic for those states that have corrective action programs authorized under RCRA, and should be expedited for other states. States with such programs have withstood significant federal scrutiny and have demonstrated their ability to manage and control cleanup sites. Moreover, given the historic conflict of interest that the federal government has at federal sites, unbridled discretion on the part of federal agencies to preclude or deny transfer of authority would be unproductive.

To provide reasonable flexibility, we recommend that states be allowed to determine on a site-by-site basis whether to exercise the authorities provided in a reauthorized statute. A reauthorized law that follows these recommendations would ensure that states could assume responsibilities over polluted facilities to the full extent of their abilities and willingness, while allowing flexible and creative solutions for each specific site.

Public Participation

Regardless of the outcome of the state role debate, one important requirement for any superfund program, whether operated by the federal government or delegated to the states, should be meaningful public participation and governmental accountability to local citizens most affected by a given contaminated site. Too often, remedies are selected in an adversarial situation through closed, legal negotiations. The public is only offered the opportunity to comment on these delicate compromises after the time when its input can be seriously considered.

In order for the CERCLA program to be successful, there must be community support for and acceptance of, not only the ultimate remedy, but of the regulatory process as well. CERCLA sites often include either all or part of established communities. Examples range from the mining communities of the Rocky Mountains to Love Canal. The designation of these communities as CERCLA sites results in decreased investment, real estate that is difficult if not impossible to sell or refinance, and increased emotional distress for citizens who are told that the contaminant levels in their community could affect their health. In some cases, the listing of an area on the National Priorities List can severely affect local economies, for example, listing may impact the tourist trade on which the community depends for its financial well-being. Local governments understandably want more meaningful involvement in the decisions that affect the present and future health and welfare of their citizens. In addition, local officials are often the best resources in assuring effective and efficient cleanups.

The case of the California Gulch mining site in Leadville, Colorado is a perfect example of the need for sensitivity to local concerns. Mining had always been the primary source of revenue for Leadville. Since the closing of most mining operations and the listing of the area on the NPL, economic growth has been severely hampered. Not many businesses or potential home owners are interested in investing in a superfund site, let alone risking being named a potentially responsible party.

An area generally encompassing the Yak Tunnel, a mine drainage tunnel near Leadville, was placed on the NPL as the California Gulch superfund site in 1982. Today the boundaries of this site have ballooned to encompass 16 square miles, including the entire City of Leadville. Eleven years after its designation as an NPL site, EPA is still investigating the site; and only one operable unit, the Yak Tunnel surge pond and water treatment system, has been completed. In addition, one residence was provided with alternative water. While EPA has legitimate public health responsibilities; the citizens have legitimate social and economic concerns which local residents and elected officials believe are not being taken seriously under the present regulatory scheme. For these reasons, we recommend that Congress amend CERCLA to include provisions for greater public participation in the process of choosing and implementing remedies at CERCLA sites.

ASSURING BETTER CLEANUPS AT FEDERAL FACILITIES

Federal facilities present unique problems for the states. Therefore, we separately discuss proposals to improve cleanups of chose sites. In particular, we believe that Congress should amend CERCLA to strengthen state authorities at federal facilities, to clarify that sovereign immunity is waived at those sites and to allow an integrated approach to cleanups in interagency agreements.

Problems at Federal Facilities

For too long, the states have had to address issues of contaminated federal sites with inadequate authorities and funding. For the past half century, Colorado has been forced to bear the tremendous burden of some of the most contaminated sites in the country. Within the heavily populated Denver metropolitan area are located the largest and most contaminated Department of Defense (DOD) installation in the country, the Rocky Mountain Arsenal (RMA) , and a heavily contaminated former nuclear weapons production facility, the Department of Energy (DOE) Rocky Flats site.

In addition, we have other more typical federal installations, closing bases and other federal facilities which contain substantial pollution. These include the Pueblo Army Depot, at which the Army intends to incinerate chemical munitions; Lowry Air Force Base, a non-NPL metropolitan area closing base where we are addressing contamination without unnecessarily delaying economic redevelopment activities; the Denver Federal Center, another non-NPL site where investigations have recently revealed a variety of contamination problems; and other sites that are still undergoing initial investigations.

Colorado, however, is not alone in bearing the burden of contaminated federal facilities. On May 18, 1995, officials from seventeen states that host major federal facilities met in Reston, Virginia, to discuss mutual problems and possible solutions. There we reemphasized what we all knew so well—the federal cleanup mission is truly staggering. Although estimates differ, it appears that DOD may need to remediate approximately 10,000 individual contaminated sites at approximately 800 installations. DOE may have as many as 20,000 sites, although they are distributed among less than 150 facilities. DOE alone "manages more than 120 million square feet of buildings and 2.3 million acres of land—an area larger than Delaware, Rhode Island, and the District of Columbia combined."[2]

Defense and nuclear weapons facilities were established to provide for national security, with many facilities dating back to WW II and its immediate aftermath. As a result of the priority placed on weapons production, the environment was largely ignored, resulting in "contamination of soil, surface water, and ground water and an enormous backlog of waste and dangerous materials."[3] DOE has estimated that its "Cold War Mortgage" for rectifying its pollution is at least $65 billion.[4] We have not seen similar current estimates for DOD facilities, although they are not expected to be quite so high.

Nowhere is there a greater need for efficiency, flexibility and creativity than in dealing with federal facility cleanups. The states, more than any other entity, realize that fact. At our Reston conference, the 17 states established a series of proposals to improve the federal facilities cleanup process. The proposals call for a strong and effective state role in federal facility cleanups, changes to improve federal agency management of cleanup programs, actions to ensure a sustained federal commitment to resolving cleanup problems, and meaningful public involvement in cleanup decisions. Our proposals are being circulated to state officials for their review and endorsement. Once the proposals are circulated and finalized, we will be drafting specific legislative language, where appropriate, to implement them.

In this testimony, we discuss two of the reforms endorsed by the participants of the Reston conference to enable states to assume the daunting but necessary challenge of cleaning up federal facilities: (1) allow for the appropriate exercise of state oversight authority; and (2) provide for integration of state and federal authorities to consolidate and streamline regulatory efforts at a given site. In addition, we will discuss another reform that did not arise at the Reston meeting, clarifying CERCLA's waiver of sovereign immunity.

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[2] *Estimating the Cold War Mortgage, The 1995 Baseline Environmental Management Report*, Vol. I, March 1995.

[3] Ibid.

[4] Ibid.

State Role at Federal Facilities

There is no question that the environmental problems created by decades of federal mismanagement and neglect must be cleaned up; the question is how and under whose control.

The desirability of having a lead decision-maker at sites being cleaned up has been generally acknowledged. Based on proposals we have heard, it appears that there are four possible entities that Congress could designate to select and supervise the implementation of remedies at federal facilities: the federal facilities themselves; the EPA; third party arbitrators; or the states.

Polluting federal facilities have demonstrated that they are incapable of regulating themselves; were it otherwise we would not be facing the daunting problems outlined above. Investigations of federal facilities have exposed if a disturbing pattern of environmental violations."[5] In a speech given in 1988, then-Vice President Bush acknowledged that "some of the worst offenders [of environmental laws] are our own federal facilities."[6]

EPA has been shown to be a toothless tiger at federal sites. Although the Resource Conservation and Recovery Act (RCRA), in 1976, and CERCLA contained waivers of sovereign immunity, their enactments did not eliminate the problems, regulatory frustration, and public distrust and hostility associated with federal facilities. These problems result largely from the "unitary executive theory" of the Department of Justice. This theory requires the "federal family" to speak with one voice, and precludes EPA from suing a sister agency.

EPA recognizes its enforcement limitations at federal facilities:

> States are not subject to the same constraints as EPA regarding enforcement actions against Federal facilities. As a result, states generally may exercise a broader range of authorities and enforcement tools than EPA to address violations at Federal facilities. States should use the full range of their enforcement authorities to address Federal facility violations to the same extent they are used for non-federal facilities while meeting the requirements of timely and appropriate enforcement resoonse.[7]

The idea of utilizing third party arbitrators has a certain degree of appeal; however, reliance on third parties may be ill-advised. Although presumed to be objective, third parties are not necessarily better qualified to select appropriate remedies than EPA or the states. They likely have less experience with implementing laws and overseeing remedial activities, and less knowledge of the individual characteristics that would determine proper remedy selection at each site. More importantly, they have no accountability, no duty to protect public health and the environment, no need to deal with the ramifications of an unprotective or overly expensive remedy, and no enforcement authority.

Alternative dispute resolution may play a beneficial role at federal facilities, and parties should be allowed and encouraged to avail themselves of the services of qualified facilitator and mediators. However, because the selection of protective remedies is a police power appropriately exercised by state or federal government representatives, it should not be delegated to private third parties.

The entities most able to make appropriate cleanup decisions at federal facilities, as at private party sites, are the states. States, unlike EPA, enjoy an arms-length relationship with federal polluters; their discretion is therefore unencumbered by conflicting interests. Moreover, as discussed above, states have proven themselves to be adept at creating innovative, efficient and effective solutions to problems. Therefore, qualified states should be allowed to oversee cleanups at federal facilities.

Integrated Approach to Cleanups

The most efficient way to regulate federal facilities is sometimes to integrate all regulatory activities and processes within one comprehensive program and agreement. Thus, ongoing management of hazardous waste, water discharges under the National Pollution Discharge Elimination System, and CERCLA and RCRA remedial and corrective action, for example, could be comprehensively addressed in one document or Interagency Agreement. Unfortunately, the District Court's decision in the *Heart of America*[8] *case provides a disincentive to follow this common sense approach.*

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[5] *From Crisis to Commitment: Environmental Cleanup and Compliance at Federal Facilities*, a Report of the NGA-NAAG Task Force on Federal Facilities.

[6] Ibid.

[7] EPA Federal Facilities Compliance Strategy (Nov. 1988), p. VII-1.

[8] *Heart of America Northwest v. Westinghouse Hanford Co.*, 820 F. Supp 1265 (E.D. Wash 1993).

In *Heart of America*, an environmental organization brought a citizen suit under the Clean Water Act, among other claims, to force the Hanford facility to comply with state water quality regulations as they pertained to a surface water discharge on the facility. The discharge was specifically identified in the Hanford Interagency Agreement (IAG), not as a CERCLA remedial action, but rather as a discharge to be regulated under the state's water quality program. Nevertheless, the Court dismissed the citizen suit on the grounds that it constituted a challenge to a remedial action under CERCLA, and was therefore subject to the "pre-enforcement review ban" of CERCLA. (CERCLA Section 113(h) precludes challenges to removal or remedial actions prior to completion except under enumerated circumstances.)

This ruling is of great concern to the states. It could be interpreted to stand for the proposition that, if other environmental matters are merely recognized, though expressly excluded from CERCLA oversight in an IAG, they are brought under the general rubric of CERCLA and thus are subject to the pre-enforcement review ban. Such an interpretation essentially could preempt the independent application of state law even where such authority is expressly preserved in the IAG. Although the ruling on its facts is limited to citizen suits, states are concerned that the rationale could be extended to state enforcement actions.

We recommend that a reauthorized statute include a provision clarifying that the reference or inclusion of non-CERCLA requirements in a CERCLA interagency agreement does not impair the state's authority to enforce such requirements.

Clarification of Sovereign Immunity Waiver

As Senator Stafford remarked almost ten years ago, "no loophole, it seems, is too small to be found by the Federal government". 132 Cong.Rec.S14903 (daily ed. Oct. 3, 1986). For this reason, a clearer, more comprehensive sovereign immunity waiver should be included in a reauthorized superfund law.

Although section 120(a) of CERCLA currently contains a waiver, it does not include the detailed, explicit language that appears necessary to avoid litigation with the Department of Justice and to withstand ultimate judicial scrutiny by the courts.

The waiver language that states negotiated with federal representatives last year, and that was included in H.B. 4916, was modeled after the Federal Facilities Compliance Act of 1992 (FFCA) In addition to clearly and incontrovertibly expressing the intent to waive immunity, it contained a provision which precluded states from applying more stringent standards against federal agencies than against private parties. Specifically, the House bill said:

> The waiver of sovereign immunity provided in this paragraph shall not apply to the extent a State law would apply any standard or requirement to such Federal department, agency, or instrumentality in a manner which is more stringent than such standard or requirement would be applied to any other person.

This language ensures that states will not apply a more onerous standard to federal facilities within their boundaries than to private facilities.

Inclusion of a clear and comprehensive sovereign immunity waiver in a reauthorized superfund bill would go far to bring federal facilities under the rubric of existing environmental regulation and state authority, and thereby ensure that enforcement can be swift, efficient and effective.

State Accountability for Federal Facility Cleanups

For all the good reasons discussed above, empowering states to exercise their proper authorities at federal facilities makes sense. However, there have been those who disagree. They argue that allowing states to regulate federal facility cleanups would break the federal budget because divorcing decision-making authority from funding responsibility provides incentives for states to "gold plate" remedies. We disagree. State delegation at federal facilities ensures independent oversight—not gold plated remedies. States have incentives to achieve thorough, appropriate remedies as quickly and efficiently as possible, to conserve their own scant resources, and to convert federal facilities or portions thereof from dead zones to community assets.[9]

As discussed above, states generally succeed in expediting and streamlining cleanup efforts to achieve rapid, effective results. Far from "raiding the federal treasury" states have proven that, when implementing either federal hazardous waste laws or their own cleanup programs, the remedies they select are more cost-effective than those chosen by federal "Superfund" managers, and begin and end far more swiftly. Moreover, states have consistently demonstrated their desire to bring down the

[9] The issue of "gold plating" was addressed in a letter signed last August 2, 1994 by the respective chairs and vice chairs of the NGA and NAAG Environment Committees. A copy of that letter is attached for your information.

costs of federal facility cleanups. To cite but a few examples from state involvement with DOE facilities:

Ohio has supported use of the "corrective action management unit" concept for cleanup actions at the Fernald DOE site. Use of this concept allows contaminated soils to be disposed safely on-site without requiring the expensive treatment necessary to meet RCRA's land disposal restriction standards, saving millions of dollars compared to off-site disposal.

Similarly, at Rocky Flats, Colorado has worked with EPA and DOE to help design a corrective action management unit to allow for on-site disposal of certain mixed radioactive and hazardous wastes, at a potential savings of hundreds of millions of dollars compared to off-site disposal.

Ohio has worked with DOE and EPA to develop realistic future land use scenarios and cleanup levels at both the Mound and Fernald federal sites. General agreement has been reached that residential use at both Fernald and Mound is inappropriate, and cleanup levels will reflect this decision.

Colorado, Kentucky and Ohio have worked with DOE to identify and eliminate unnecessary groundwater monitoring wells and other unnecessary sampling, saving millions of dollars annually at Rocky Flats, Paducah and Fernald.

Kentucky regulators raised concerns over what they considered inflated DOE cost estimates for a solid waste landfill. After considering state comments, DOE reduced its cost estimate from $12.7 million to $6.8 million.

Tennessee regulators raised concerns over project scope and cost related to construction of a wastewater lagoon as part of the K-25 Potable Water Treatment plant. After considering state comments, DOE was able to reduce the project costs from $8 million to $2.6 million.

States have also demonstrated reasonableness in overseeing the implementation of cleanup agreements at federal facilities. All such agreements contain provisions for extending milestones, and stares have been very reasonable in granting extensions when justified. Additionally, states such as Washington and Colorado have already agreed to renegotiate schedules in light of fiscal constraints, shifting priorities, and technological constraints. For example, at Rocky Flats, Colorado and EPA Region 8 recently agreed to defer $35 million worth of environmental restoration required to be performed in FY 1995 under the cleanup agreement, so that DOE would have money to accelerate stabilization of plutonium, a higher risk problem. Accelerated stabilization reduces storage costs, and allows for accelerated plutonium consolidation, thereby further reducing costs. Two years ago, Washington renegotiated the Hanford agreement to help DOE reduce costs by a billion dollars. Last year, Washington negotiated another $160 million in savings, and this summer it identified yet another $100 million in regulatory efficiency measures.

States recognize the fiscal impacts of federal facility cleanup obligations. They have consistently expressed their willingness to work with the federal government to accommodate fiscal constraints while reducing risks from environmental contamination at federal facilities in a manner that protects human health and the environment.

CONCLUSION

In order to truly expedite and make more efficient CERCLA cleanups, we urge you to amend the statute to provide qualified stares with decision-making authority at private and federal sites. Further, we urge you to provide greater opportunity for public participation in CERCLA cleanups.

At federal facilities in particular, qualified states must have a lead role. By the federal government's own accounting, cleaning up DOE sites alone is estimated to cost at least $65 billion, and take approximately 75 years. DOD sites may cost an additional $40 billion.

Most of the progress that DOE has made in addressing its environmental problems has been the direct result of pressure from state regulators. Congress has repeatedly recognized the importance of strong state oversight of federal facilities in the various environmental statutes. Three years ago, Congress strengthened this state role in passing the Federal Facilities Compliance Act. We in the states are deeply indebted to Congressman Dan Schaeffer for his steadfast commitment to this legislation. Now is time to build upon that work and create even greater federal accountability.

To avoid further delays, less attention being paid to environmental requirements and, ultimately, a far greater burden on the taxpayer to correct the additional environmental problems created by such neglect, we urge you to support CERCLA re-

forms which will recognize the states' sovereign right to ensure appropriate cleanup of federal contaminated sites within their boundaries.

Mr. UPTON. Thank you very much.

For the first 5 minutes, I yield to the gentleman from Louisiana, Mr. Tauzin.

Mr. TAUZIN. I thank the Chair.

Mr. Fields, let me first comment about a local issue, and that is the OXY team cleanup, a program going on in Bossier City, Louisiana. My understanding is that EPA is now looking into a rather innovative approach at that site which would possibly endorse a community-based cleanup that could in fact represent some innovative kind of ways of dealing with these problems.

I simply wanted to commend you and encourage you in that regard. The community obviously seeks and is exploring new ways to get it done in a way that pleases the community and gets the site cleaned up and EPA can be of assistance in it rather than following the old rules, as we sometimes do. It seems to be a possible win-win, and I just wanted to encourage you in that regard.

In your statement you mention that the Agency continues to support the delegation of certain site assessment, allocation and remedy selection authorities to qualified States. That is a fairly qualified statement.

We are hearing a lot of support from the States today and a lot of encouragement about their own capabilities and their own success stores in running their programs. You summarized for us, and I want to thank you for that, very adequately the status of State programs. Apparently there has been an awful lot of movement in the last 5 or 6 years in the States developing strong programs that seem to work more.

Let me take your statement, which seems to be awfully qualified, and find out what those qualifications mean, why you qualify it.

You say you continue to support the delegation of certain site assessment, allocation and remedy selection authority to qualified states. How do you define a qualified state?

Mr. FIELDS. Thank you for giving me the opportunity to explain and amplify on my statement. I want to say that we are working on the OXY matter and we are going to be meeting tomorrow in our region with EPA, the State and the OXY folks to talk about the legal issues, and next week we will be meeting to talk about technical issues. I believe we will be able to work out something that is mutually acceptable to everybody.

Mr. TAUZIN. I just want to encourage you. I hear good thing about it.

Mr. FIELDS. To address your question about my statement, what was referred to there was we believe that for qualified States all the site assessment, allocation, remedial enforcement authorities can be delegated.

A certain part was meant to really focus more on the emergency removal program. We think that there are certain major nationally significant emergency removal events that in discussion with certain State they have told us that they would not want to take those on. They want those to be still retained by the Federal Government. So in our administration proposal we would propose to still retain an emergency removal program, and that part of it we would

probably not delegate unless a State really felt they wanted to take it on.

So that certain phrase was more directed toward that element.

Mr. TAUZIN. Removal.

Mr. FIELDS. Right.

Mr. TAUZIN. So the real qualifier then is qualified States. How would EPA like us to define a qualified State capable of assuming all of the site assessment, allocation and remedy selection authorities except for emergency removal? How would you recommend we in fact define a qualified State?

Mr. FIELDS. I agree with your beginning statement. States have done a lot in terms of making progress over the last 15 years. We have seen a lot of improvement at the Federal level, but also particularly among the States. A lot of States have really developed very effective programs for managing and cleaning up Superfund sites.

As Mr. DiPasquale said in his statement, I believe, we would want to work with the States to develop a joint set of criteria that we could both live with in terms of what the criteria would be.

Mr. TAUZIN. Do you think we ought to define that?

Mr. FIELDS. I will give you some examples. It would include things like the capability of the staff in that State, their experience in managing cleanup, adequate cleanup and enforcement authorities that a State would have in place. Those are the kinds of things we would look to in evaluating a State.

Mr. TAUZIN. But here are our choices. Our choices are to very specifically define what a State must do in order to qualify for this delegation, or to broadly define the categories of the criteria by which EPA could assess a State's capabilities and determination to carry out a good program, or to literally leave it up to EPA to define. Of those three choices, which one would you choose?

Mr. FIELDS. I would choose the second, Congressman, to lay out some general guidelines as to the kind of things we consider, allow us to work together with the States to put meat on the bones, if you will, and to more explicitly agree on those criteria. We would intend to be fairly flexible in the administration of those criteria. We are not talking about RCRA, but we are not talking about underground storage tanks either. So somewhere in that spectrum is what we are talking about in terms of how we would propose to delegate and provide criteria for that delegation.

Mr. TAUZIN. Thank you.

Mr. UPTON. So the answer was door number two.

We have a vote on. So we are going to take a very brief recess. Mr. Bilbray has gone to vote. He is going to return to the Chair. It should be just a couple of minutes, and then we will continue. He has some questions. I have questions. I know Congresswoman Lincoln has questions as well.

By the way, when this panel is complete we will adjourn until 1 p.m. So we will start panel number 3 at 1 p.m.

[Brief recess.]

Mr. BILBRAY [presiding]. The subcommittee will come to order.

The Chair would recognize himself for the first round of questions. I'd like to thank the panelists for being here today. Some of you have traveled far; some of you, across the Nation.

My first question is really sort of directed at the experience that we've seen in California, which many may think is not quite substantial enough. But let's face it: we have a small, intimate group of 32 million people with some of the most effective environmental laws in the world. And maybe we can learn from an experiment way off on the edge of the earth, called the Pacific Coast.

Mr. Strock, you have been able to review the California law of 1994, S.B. 923. What is the criteria for application to participate in that program?

Mr. STROCK. Thank you, Mr. Bilbray. And again, it's a great pleasure for the country to have a person with such great environmental experience as yourself taking such a leadership role in these issues.

California has had, over the past 3 years, a significant series of reforms that culminated in S.B. 923, you referred to last year. S.B. 923 is a pilot program that involves up to 30 projects; and we're now receiving applications, where parties will come in voluntarily. The Government and the private parties will put down their litigation tools, and they will submit to arbitration by a select panel, that liability determined by proportional liability on equitable factors, to have cleanup standards based upon prospective land use directly, and to have very extensive community involvement.

We are very excited about this possibility because we believe that this gets into areas of weakness in the Federal program and gets the State away from following any of those weaknesses from the Federal effort.

Mr. BILBRAY. Now, just to point out, my background in environmental problems is founded on growing up in one of the most polluted communities in California. It wasn't by choice, and I'm probably a good example of why we want to make sure that we don't have any other polluted communities in California.

Mr. STROCK. Yes, sir.

Mr. BILBRAY. What is the expected duration, or longevity, of this program? In other words, is there a clear beginning, a middle, and an end in your process?

Mr. STROCK. Mr. Bilbray, the beginning will be this year. We're now accepting applications, and the first regulations on this program went out this very week. The duration will depend on how well it works. We believe that with the collapsed, much sped-up schedule this involves, that we should know within several years whether it has worked.

It includes even other experimental parts. Such as, for example, much greater potential for the use of orphan-share funding. So we think that we'll get a lot of data. And we'd like, of course, to submit that for your consideration, and others, as it comes in.

Mr. BILBRAY. One of the big concerns for those of us who really want to see real cleanup is the fact that the Federal law seems to be more of a process for process' sake. Resources are going to litigation, rather than cleanup.

With S.B. 923, which is based on land use-based cleanup standards and community involvement, the liability arbitration is addressed—it sounds like exactly the kind of thing that everybody's talking about: maybe we need to transfer them into the Federal program to get the effective cleanups.

How have these provisions worked in real practice in California; would you recommend them as being effective in a national strategy, and should we include these kinds of approaches in our review of the Superfund?

Mr. STROCK. Well, we would certainly hope that it would be considered. We would urge, sir—as you know has been the case in other areas such as automobile inspection and maintenance—that the States be given tremendous flexibility in terms of how they reach the standard, but then much clearer accountability in terms of reaching the standard, so we would hope that any kind of authorization would be very, very flexible and that the Federal Government would simply get out of the way and give us the resources in areas like NPL sites, where they've basically have submitted themselves to a covenant over the past 15 years to get the job done.

Mr. BILBRAY. So, do you see a potential for the State of California to assume what is now a Federal responsibility under the Superfund?

Mr. STROCK. Yes, sir. We would think that right now, in the case of removal actions, California has a very strong program in the case of emergency response. There's a strong State/local coordinated program. And we believe that the speed that's already been greater in this area, combined with these new reforms for remedial actions, would indicate that we could operate these well.

Mr. BILBRAY. Okay, so we can say that the good news is that there are States that are ready to take on the responsibility, do it more efficiently, more effectively. That's good.

Mr. Fields, I'd like to sort of get to the bad and the ugly of this thing, if I may. I've received—and I think many members here have received—what I think is quite an inappropriate and alarming letter. A document that is a note from an EPA Region 8 official to a Region 8 official—it says to their colleagues that "the Sierra Club's Maggie Fox called me last Tuesday seeking info that they should use to counter the taking and risk cost benefit proposals in the Colorado legislation".

The statement goes on to say that they delivered a package to the Boulder office on Saturday. "If some of you have good ideas about what is in the Colorado bill and the takings, the risk assessment benefit how it might relate, and could you please call Maggie".

Sierra Club plans a big-push media event Thursday. And here's the kicker: "it seems to me that this is one of those perfect opportunities to cultivate an important constituency and help them do what we cannot. Signed Richard Lathrop".

You know, I'm reading this as somebody who was in local government, and my understanding is that Federal Government officials ought not be involved in this kind of thing, as I see it. It looks like this is against the law, what is going on, and it violates the separation of Federal and State. It not only violates the concept that those of us in government should not be actively participating in politics, but actually for a Federal agent to be participating in what looks like here, collaboration into interfering with State legislation. This also illustrates the depth of the agenda that some people in the system may get into just to be able to avoid cost-effective and science-based analyzation in the States.

[The memorandum referred to follows:]

FROM: Richard Lathrop at R89TW56 3/20/95-8:32 a.m.

TO: Vaughn Whatley, Patricia Hull at R8AT1, Jack Hidinger at R8AT1, Douglas M. Skie at R8AT1, Jeff Houk at R8AT1, Nola Y. Cooke, Sandra Johnston Fells

SUBJECT: Sierra Club Takings, Risk Assmt/cost benefit

Dear Colleagues: Sierra Club's Maggie Fox called me last Thursday seeking info they could use to counter Takings and Risk/cost benefit proposals in Colorado legislature.

I delivered a packet of stuff to their Boulder office on Saturday. Upon listening again to Maggie's voice mail (forwarded to Vaughn) it occurred to me that she said she wanted to take on these isues AS THEY RELATE TO METRO AIR QUALITY.

If some of you have good ideas about what is in the Colorado bills and/or how takings, RA/C-B might relate, could you please call Maggie today. Sierra plans on a big push (media event?) Thursday.

Seems to me this is one of those perfect opportunities to cultivate an important constituency and help them do what we cannot.

Best wishes to all,

RICH L.

Mr. BILBRAY. I would like to know, from you, Mr. Fields, after seeing this document, do you believe that this is appropriate behavior, and what disciplinary actions, if any, has your Agency taken on this issue?

Mr. FIELDS. I have just seen this for the first time, Congressman, and I would have to know more about the circumstances to make a judgment as to whether this is appropriate behavior. I would have to know, first of all, the circumstances under which such a request was made, whether or not the official, in fact, was just providing information about EPA's analysis of cost benefit legislation or risk legislation that may be contemplated.

I just don't know enough about the facts to make a judgment right here as to whether or not I would say this is inappropriate behavior by a government official. There's just not enough information.

Mr. BILBRAY. Well, let me tell you: as somebody who administered a county with 17,000 employees, if I had an employee who had put out a document that basically shows, in writing, on government time, on government paper, that they have actively collaborated in trying to encourage somebody not only to participate in a media event, but to help to try to manipulate State legislation—it really concerns me.

If you take the time to read this memo, and the reference to trying to manipulate the media in a media event and to try to block State legislation, and to work with a group—let's face it, the Sierra Club has lost a lot of its tax qualifications because of its political activity.

It just really concerns me that if we saw this same type of action being done with other agent groups that are politically involved—and I don't need to name them; you and I know, there would be hell to be paid—it concerns me that this jeopardizes the credibility of our environmental strategies, and the fairness of the Federal process, and the cooperative effort with people in California, or in Colorado. How can I look at Colorado and say, we're working with you, when our employees are actively, subversively, working to circumvent this process.

Ms. Norton, can you give me, as a State agency, your opinion about how you feel about Federal agents sending out these types of memos and participating in this activity.

Ms. NORTON. This is the first that I've seen this memo, and frankly, I'm outraged.

My office was directly involved in the takings legislation. And this legislation was very reasonable legislation. It simply established a State rule parallel to the executive order on takings that would have required the State to determine whether its actions would result in the taking of private property, and it required State agencies to report to the legislature on diminutions in property value that they caused. It was not a radical measure at all. It was not one that would have interfered with environmental programs being undertaken by the State.

I think we should allow States to deal with constitutional issues—like takings or private property—in their own way, and I do not appreciate Federal agencies interfering in the State legislative process.

Mr. BILBRAY. I would like to ask the other State members how they feel about a revelation that shows that, at least in one case, Federal agencies are actively engaged in trying to influence legislation covertly, through the media and through other activities.

Ms. DUNLOP. I will be happy to speak on behalf of Virginia. We have had several instances in the past year where EPA has overtly tried to affect legislation in the General Assembly of Virginia. And we didn't particularly like that, in light of the fact that they were not dealing with us in an open way; they were dealing with State legislators to try to affect their thinking on legislation, which was perfectly legal and appropriate in threatening the Commonwealth if such laws were passed.

To find that they would be engaged in this kind of covert activity is really disturbing and gives even more reason to question the sincerity, really, of regional people with whom our State officials have to deal everyday.

Mr. STROCK. This is clearly extremely disappointing, Mr. Chairman. But I must say with regret, it's not entirely surprising, based upon some of the experiences we've had in the past 2 years with the U.S. EPA.

Mr. BILBRAY. I appreciate it, and I just think the issue here is, we need to send a signal that the power and authority of the Federal Government is not a social clique to be manipulated in violation of law and the relationship between the States. And I look forward to working with the good things you are doing at the States and do everything humanly possibly to avoid these kinds of abuses. Because our relation, I think, is critical for the protection of not just the States but the environment of everybody in this Federal system.

I'd like to recognize the gentlelady from Arkansas at this time.

Mrs. LINCOLN. Thank you, Mr. Chairman.

Ms. Dunlop, in the Commonwealth I've noted that in your testimony, when I was here, you said that you would prefer to see it rewritten, redesigned, and then handed over to the States. You and the Commonwealth of Virginia have cut drastically your resources, as well as your personnel. Is that correct?

Ms. DUNLOP. We have streamlined our agency. As you probably know from the research you've done, 3 years ago the General Assembly combined four separate agencies into one, with the understanding that duplication of responsibilities would be eliminated and the resulting bringing together of four separate government agencies would also result in streamlining. That did not occur until our administration came into office and we worked with the General Assembly to effect that.

Mrs. LINCOLN. Effective December 1994, is that correct?

Ms. DUNLOP. Excuse me?

Mrs. LINCOLN. Effective December 1994, is that correct?

Ms. DUNLOP. Well, we came into office in January 1994 and began working with the General Assembly to effect that. So, the short answer is, yes.

Mrs. LINCOLN. It was not prior to 1995 that the State of Virginia saw a great deal of resources cut and personnel cut?

Ms. DUNLOP. Well, the former Governor, Governor Wilder began cutting the budget. And when we came in we re-evaluated that.

Mrs. LINCOLN. You cut it further then?

Ms. DUNLOP. Yes, that's right. Yes, we did.

Mrs. LINCOLN. You cut it further.

Ms. DUNLOP. That's right. We had been eliminating the duplication when those four agencies came together.

Mrs. LINCOLN. How many other sites do you have in Virginia that are not on the NPL?

Ms. DUNLOP. Approximately 320.

Mrs. LINCOLN. 320? I guess my concern becomes, if you want to give us the capability to rewrite, redesign, and hand it back over to you, and you cut drastically your resources and your personnel, and you've got an additional 320 sites, other than your NPL sites, how are you going to meet those needs?

Ms. DUNLOP. Well, we're managing with our resources very capably. And of course, our position with respect to Superfund was that we had an allocation of personnel who were spending time and State resources to work on remediation decisions and work on these sites only to turn what decisions had been made over to EPA Region III, which then re-evaluated and made new decisions overriding the State's authority.

Mrs. LINCOLN. But you still believe in a Federal program, correct?

Ms. DUNLOP. We believe that the Superfund sites need to be cleaned up.

Mrs. LINCOLN. I mean, if you're wanting us to rewrite it and redesign it and then turn it over, you're still believing in a Federal program.

Ms. DUNLOP. We believe it is appropriate for the Congress to say that it is important to clean up these sites and set some national guidelines. We, however, think that the program elements, which hopefully you all will be deciding on—we'll be involved in helping you come up with decisions that we can——

Mrs. LINCOLN. I just want to make sure that I'm getting the correct message from you, which is that you do see or feel like it's important to have a Federal program and not a lot of spotted different State programs, but a uniform Federal program.

Ms. DUNLOP. We think it's important to have some national guidelines. But we do believe that States should be able to make decisions on how to implement those guidelines. And each one is going to be different. We think that that's the appropriate way to do it, for each State to be able to then design its own program.

Mrs. LINCOLN. Okay, so you do want the States to have the capability to design their own programs.

Ms. DUNLOP. Yes, we do.

Mrs. LINCOLN. Not the Federal.

Ms. DUNLOP. We think national programs are appropriate and States should be able to design their own programs. We're eager to do that in Virginia.

Mrs. LINCOLN. We're going to be hearing some testimony from the Office of Technology and Assessment in a later panel that will highlight the connections between the Federal and State liability and the enforcement provisions, and the success of voluntary cleanup programs in brownfields, redevelopments and reuse initiatives.

And I'd like to read you all two sentences and see if you do agree with OTA's conclusion. First OTA's testimony states, "it is the presence of the Federal or State Superfund laws that is largely responsible for encouraging private sector participation in these programs."

Then OTA goes on to say, "However, without the enforcement provisions of these programs, there is a risk that fewer voluntary cleanups will occur, placing more of the burden on State and local governments to pay for cleanup in redevelopment of brownfields."

So, basically, the elimination of Superfund retroactive liability would, as I understand what the OTA testimony says, has several effects. First, it would result in fewer voluntary cleanups and also less redevelopment and reuse of the brownfield sites. Second, it would place much more of the financial burden for the brownfields redevelopment on financially strapped States and the local governments. And again, I believe it was Ms. Norton that was talking about unfunded mandates earlier.

I'd like for you all, as witnesses, to indicate whether you agree with what OTA is stating here in terms of the detriment. And also, it appears that elimination of the Federal liability standard would exacerbate, if not create, a large unfunded mandate on the State and local governments. Am I on the right track here? You all have comments?

Mr. FIELDS. I personally agree, from the EPA perspective, with the OTA assessment that you just quoted from. Seventy-five percent of the voluntary cleanups and the brownfields cleanups are being done by responsible parties because of the retroactive liability scheme. I think we would lose a lot if we didn't have such a scheme to help enforce voluntary cleanups.

Not only that, but we lose 70 percent of the cleanups at NPL sites if we didn't have such a scheme in place. We believe that the "polluter pays" principle does have major benefits on getting people to do cleanups, not only in voluntary cleanup scenarios and brownfields redevelopment efforts, but Federal interests as well.

That has major benefits and should be retained. We believe the polluter should pay. That principle should be maintained in a revision to the law because of the benefits that are being mentioned in that OTA report you're referring to.

Mrs. LINCOLN. Did any of you other witnesses have a comment on that?

Ms. NORTON. I think there are problems with the retroactive liability scheme. And I've seen some real problems in the way that works in the field. When you're talking about trying to resolve how to do a cleanup at a site, and that is being done in the context of settlement of a law suit, that means, as with any other law suit, it is done behind closed doors. It's done without citizen participation. It's done in a way that is not conducive to having everyone in the community involved in trying to go about deciding what makes sense for that community.

Mrs. LINCOLN. I think we solved that problem last year as we moved forward, and hopefully we'll do it again this year.

Ms. NORTON. There are some problems that are not immediately apparent that come from the way in which we do things. Obviously, there are no easy answers here. There is no easy way to move beyond the current process and still have what we'd like to see, with more voluntary cleanups, with more citizen participation in the process.

Mrs. LINCOLN. Of course, the impetus and the finances have to be there for that voluntary—as well. Mr. DiPasquale?

Mr. DIPASQUALE. Yes. I also believe, as Mr. Fields pointed out, that the strict liability standard encourages other options. In other words, that needs to be there as a backdrop and it provides opportunities for States to engage in programs like Mr. Strock just pointed out. I think it does make those much more attractive and leads to faster cleanups.

I think, in addition to that, as I pointed out in testimony, I think we need to have a single program, and that will eliminate the dual role and that will really give rise to even more voluntary programs.

Ms. HAFNER. To build on what Mr. DiPasquale said, the liability provisions and the enforcement at both the Federal and the State levels are inducements to conduct voluntary cleanups. But there are many different motivations from Ohio's perspective that can cause someone to volunteer to clean up a site, and we ought to set the policies and the tenors of these cleanup programs so that we're taking advantage of those opportunities, whether it be because they want to be a good citizen and do the right thing, or whether they're induced because of the liability.

Mr. BILBRAY. The Chair is——

Ms. HAFNER. I see my time. Thank you.

Mr. BILBRAY. Thank you. The gentleman from Michigan.

Mr. UPTON. Thank you, Mr. Chairman. Mr. Fields, I would say that our State has enjoyed a pretty good relationship with our regional office, and there are a number of things we've done in personalities as well as work.

As you may know, we just passed—in fact, I was next to the Governor as he signed a new law with regard to 307 sites, which is what the State administers. I don't know whether you have had a chance to examine Michigan's new law, which I think is going to

be a pretty good one. And I would be interested in any comments you have in that regard.

Mr. FIELDS. I've not had a chance to examine your law. I did talk to several people at the State about your new law last week. I was briefed for the first time on the changes to 307.

Several of your people were at a meeting I was at last Friday—Claudia Curbuway, Bill Bradford and others—where we talked about the new law. It seems to provide for a characterization of sites and waste in the various categories, managed sites based on the relative risks that are posed by the type of site. And those overall principles that I was briefed on appeared to be reasonable ones and effective ones in managing cleanups and Superfund sites.

But I must say, I have not actually read the new version of the 307, and I would have to read it before I could say, well, is this something that we would support as a model for comprehensive change at the Federal level.

But basically, I think the State has a good program. They've done a good job. You have a lot of good people in that program who are among the leaders in Superfund cleanup in the country. So, I'm very pleased with the program and based on what I was told about the law, it appears to be fairly reasonable in terms of the scope.

Mr. UPTON. Good. I'm hoping that as this process is really now beginning, both in the House and the Senate, that we can really interact—and what we've done in Michigan with regard to the national law, because I think that it will work quite a bit better.

I have a question to each of the other members of the panel, particularly as it relates to their State. One of the things that I've been very concerned about—and I've spoken out about it from the beginning—is the problem of lender liability. Now, we have seen, at least until this new law was enacted the other day, the State going after lenders as parties, even though they had really nothing to do with the contamination of any of the sites that were selected.

I'd be interested to know what other States have done. Has your State—whether it be Colorado, California, Delaware, Ohio, et cetera—actually filed suit against any lenders in regard to your State-administered law, that you can remember? I'll start with Cindy.

Ms. HAFNER. In the State of Ohio, prior to the passage of our voluntary cleanup law, at one site, there were claims made against a lending institution. But our new Senate Bill 221 that created our voluntary law passed a broad exemption for lenders, so long as they were not participating in management of a facility. So long as they were just protecting their security interests, they wouldn't be held liable as owners. And that's the current status of the law in Ohio.

Mr. DIPASQUALE. I think there may have been past instances where that may have occurred. I'd really have to check on it. There haven't been any recently. I think the general attitude in Delaware is that if there's no act, no participation on the part of the lender, then really they shouldn't be held liable.

Ms. DUNLOP. I don't know about the entire history of Virginia, but not recently.

Mr. STROCK. I can check on the case law, Mr. Upton, but I'd like to make two points. One is, there's no question that the liability

potential has affected lenders and affected a number of our properties. And we have made adjustments to deal with that.

But second, I would remind people that the Superfund liability in this area, which has been uncertain—at least since the *Fleet Factors* case—has not been, in my mind, satisfactorily addressed in 5 years. I worked on that on the U.S. EPA's head of enforcement. It's still not properly resolved. Second, it points to a big problem in this liability structure. For particular parties to be able to come in and take themselves out, when this is not a fault-based system, leaves whatever "unfairness" there is all the greater on the remaining parties. So I think it shows a need for real caution in how this is approached.

Mr. UPTON. I would just note that Mr. Tauzin and I are the ones that have cosponsored, authored legislation that we're hoping to fold into the Superfund legislation here, which would in fact provide the liability relief that we have not seen.

For me—and I'll just relate a personal story—we have, in one case in my district, I think, 37 PRP's that have been identified in one of the local lenders—this is in a town of about 8,000 people. And one of the lenders said to me the other day that they'd be absolutely stupid to provide any type of lending relief until this issue is resolved, for any purpose, for any of those 37 parties.

Gail?

Ms. NORTON. There is no Colorado statute on the subject. And I cannot recall a suit in which the State has proceeded against a lender.

Mr. UPTON. I yield back my time, Mr. Chairman. Thanks very much.

Mr. BILBRAY. The gentlelady from Arkansas has unanimous consent.

Mrs. LINCOLN. Yes, Mr. Chairman. Unanimous consent to enter into the record a letter from EPA to Ms. Dunlop. I wanted her to know where I'd gotten the information.

Mr. BILBRAY. Without objection, so ordered.

[The letter referred to follows:]

ENVIRONMENTAL PROTECTION AGENCY,
REGION III,
Philadelphia, PA, July 11, 1994.

Ms. Becky Dunlop
Secretary of Natural Resources
Commonwealth of Virginia
P.O. Box 1475
Richmond, VA

DEAR MS. DUNLOP: This is a follow-up to recent discussions with the Environmental Protection Agency (EPA) regarding the decision of the Legislature in the Commonwealth of Virginia to phase out the State Superfund program.

Since 1987, Virginia's Division of Waste Management has participated actively with EPA in investigating and cleaning up Superfund sites located in Virginia. During this time, the Commonwealth received approximately $9.5 million from the Superfund Trust Fund. The Commonwealth used this money to hire technical staff, purchase equipment, investigate Superfund sites, review actions taken by responsible parties at sites, conduct community outreach, and provide general support for the State's Superfund program.

It is our understanding that as a result of budget-cutting measures taken by the Virginia Legislature, the Virginia Department of Environmental Quality (VADEQ) will no longer participate in the Federal Superfund Program. It appears that the funding mechanism which allowed the Division of Waste Management to participate

in the Superfund Remedial and Site Assessment Programs will be eliminated as of December 31, 1994.

We understand that you plan to maintain a small staff to perform activities mandated under CERCLA that are necessary to allow EPA to continue to clean up sites in the Commonwealth. The function of such a staff will enable the Commonwealth to continue to make the necessary assurances regarding payment of cost share, operation and maintenance and adequate disposal capacity. In addition, this staff will review Records of Decision and identify Applicable, Relevant and Appropriate Requirements (ARAR's) for sites.

On June 2, 1994, members of the staff of EPA Region 3 met with the VADEQ Superfund staff to discuss, in general terms, the policy issues and procedures associated with closing out the day-to-day Superfund management activities of the Commonwealth. During our discussions, it became apparent that the best mechanism for EPA to provide funding to the Commonwealth for Superfund program support after 1994 would be a small Superfund core grant with several activity specific multi-site cooperative agreements. However, a core grant requires a 10 percent state cost match, which we understand may not have been provided for in your recently enacted appropriations bill. Because of the advantages to the Commonwealth of a small core grant, we would strongly suggest that you review this issue to see if the necessary funding for a match could be made available from the Commonwealth. The core grant would allow us to continue to fund State Capacity Assurance Planning and would allow you to retain certain equipment and supplies (e.g., the Superfund library). Without a core grant, you will be expected to reimburse EPA for the fair market value of certain supplies and equipment which EPA elects not to take title to.

During the meeting, we also agreed to a number of items and activities which are identified in an enclosure to this letter. Accomplishing these in a timely fashion will ensure a smooth transition of the program but will require a substantial amount of work on both the part of VADEQ and EPA over the next several months.

The proposed Superfund Reauthorization bill provides significant opportunities for states to increase, rather than decrease, their participation in the Superfund process. The bill would enable EPA to delegate the cleanup of sites to states through cooperative agreements. This provision would be of particular benefit to states such as Virginia that do not have at this time strong state Superfund legislation.

We are very concerned about the effect that the Commonwealth's legislative action will have on the ability of VADEQ to participate in the cleanup of Superfund sites in Virginia in the future. Needless to say, the Commonwealth will lose a dedicated cadre of highly technical individuals knowledgeable in the Superfund process. The expertise, knowledge and experience that these individuals provided over the past 7 years have been invaluable to both EPA and the citizens of Virginia. However, we are committed to working with you to ensure a smooth transition.

EPA will remain available to share or discuss with you any future concerns about the Superfund Program in the Commonwealth of Virginia.

Sincerely,

PETER H. KOSTMAYER, *Regional Administrator.*

Mr. BILBRAY. The gentleman from Illinois.

Mr. RUSH. Mr. Chairman, I do have a couple of questions here.

Mr. Fields, I was interested to hear about EPA's involvement in the enterprise zone activities—EZEC activities. In Chicago, my district was awarded an enterprise zone, and I would be interested in learning what activities your Department planned to provide in that area. How are you going to be involved in that area? Particularly, I'd be interested in your comments about community involvement in those areas of activities.

Mr. FIELDS. Okay. Sir, we are particularly focusing on the enterprise zones and empowerment zones, enterprise communities around the country. EPA has been given the lead by the President to focus on brownfields redevelopment.

So in Chicago, Detroit, Pittsburgh—all around the country where communities are looking at how they can restore and provide for a sustainable development—we will work with those communities to try to put in place pilot projects and mechanisms for trying to work with communities to provide for redevelopment of contami-

nated properties in those cities; identifying those properties that are no longer of Federal interest by EPA; providing pilot money funding to the cities, like in Chicago, to do pilot projects on how we identify certain areas that are potential for redevelopment; assess those properties; try to deal with the liability issues; and try to get those properties restored.

That is a major effort, as part of our 50 pilot projects that we plan on awarding over the next 2 years. And Chicago is one of the areas that we've chosen for redevelopment of brownfields in conjunction with the empowerment zone. Those cities that were given the empowerment zone designation by the President are ones that we specifically want to make sure that an EPA brownfields agenda is integrated there.

On the other point of community involvement—and that's what I was mentioning briefly in my response to Congressman Upton earlier—last Friday in Detroit, we had a day-long meeting with States, local governments, and community representatives to talk about a community redevelopment or brownfields agenda. We're having a series of 5 trips around the country to cities, including Detroit last Friday, where we are meeting with community representatives to talk about how they would get involved in redevelopment of contaminated properties; how the community would have some input into what kind of businesses would be brought in after cleanup is done; how the community would be involved in trying to get some of the jobs associated with that redevelopment and cleanup of those properties. That is part of what we're doing to make sure that community involvement is intricately woven into redevelopment of these contaminated properties.

Mr. RUSH. You might have answered this question already, but on page, I think 16, of your statement, it's mentioned, "To ensure the environmental sustainability of their activities." What does this mean, environmental sustainability of their activities?

Mr. FIELDS. We're talking about the fact that when we look at trying to marry up environmental cleanup and job creation and economic redevelopment, we want to make sure that as we go in there to do environmental cleanup, particularly in our brownfields efforts, we want to make sure that we're putting in place a process that is going to be viable in the long term.

We are going to have a cleanup that is effective, that is supported by the community in terms of the land uses that they want, and that they buy into in that community. That the community is involved in the business that is brought in and they support the type of businesses brought in. That the community and the businesses agree to work together to provide for long-term sustainability of that community. That they're going to work together to assure job creation, environmental protection in the long term.

We want to marry up, we want to show that through our brownfields agenda that environmental cleanup and economic redevelopment can work hand-in-hand together. They don't have to be contradictory but they can be supportive of one another and we think that the brownfields type of activity is one where we can take urban wastelands that are in many cases in proximity to inner city communities that have former industrial properties sitting next door, we want to go in there and try to make that a living environ-

ment again, a piece of property that can be utilized as a part of the long-term sustainability of that community. So that's what we're talking about.

Mr. RUSH. Now the particular contaminated sites, do you have a listing of those sites or will those sites be determined by a process? Say, for instance, a community organization or individual want to invest it in a property, open up a business, and it's found that it's contaminated. Do you get involved at that point or do you have a predetermined list of potential sites?

Mr. FIELDS. We have many sites. For example, in Chicago we have given to Mayor Daley this week a list of all those more than 100 properties in the city that are being removed from our Superfund inventory. Those properties are no longer of Federal interest. We will work with the State, work with the city, and those are candidates for redevelopment and we've identified those.

We have identified other properties in the city that are still on our Superfund inventory that have not been relieved. They're still of Federal interest and so those properties are identified as well. So we have made our list available to the cities, to the localities all around the country, not just in Illinois.

We are working with States, local governments, and communities to make sure that those properties that have been so identified can be assessed in terms of their potential for re-use or redevelopment. Just because you clean up property, it is not necessary that that property is going to be redeveloped, so we want to make sure that properties there are cleaned up, are real live candidates for redevelopment.

Those lists are being made available and we are working with the city, for example in Chicago, to help them assess their properties. We've assigned an inter-governmental personnel act employee from EPA to the city to work with the city on their redevelopment efforts. So we're trying to do all we can across the country to work with localities to deal with this problem of redevelopment of contaminated properties.

Mr. RUSH. Would you please forward me a copy of those lists as it relates to Chicago?

Mr. FIELDS. I'll be happy to do so. It's public information and we'd be happy to send that list on to you.

Mr. RUSH. Thank you very much. I yield back the balance of my time.

Mr. BILBRAY. The list will be included in the record?

Mr. RUSH. That will be fine.

[The following information was received for the record:]

SITES REMOVED FROM CERCLIS INVENTORY
NO FURTHER REMEDIAL ACTION PLANNED (NFRAP) SITES
CITY OF CHICAGO, ILLINOIS

Site Name	Street Address	ZIP Code	EPA ID
A & B CONTAINER	4250 SO KNOX AVE	60632	ILD980704795
A-1 MULTIPLATE SERV INC	411 N MILWAUKEE AVE	60610	ILD005192646
ABEX CORP NAT BEARING DIV CLEARING PLT	5331 W 66TH ST	60638	ILD980606438
ACCO INTL INC	900 E 95TH ST	60619	ILD074379546
APCO IND INC	2855 W LAKE ST	60612	ILD066204181
ARMSTRONG CONTAINERS	1440 KILBOURN AVE	60623	ILD005067988
AUGUST BATTAGLIA DISTRIBUTING CO	2545 S ASHLAND AVE	60608	ILD044231850
BENJAMIN MOORE PAINTS	401-23 NORTH GREEN STREET	60622	ILD982074650
CAL HARBOR IND COMPLEX	13558 S HOXIE	60628	ILD980677561
CALUMET NU-EARTH DIST CENTER	NORTH 130TH ST & DOTY AVE	60628	ILD980903686
CARTER WHITE LEAD NL IND	WEST PULLMAN 12042 S PEORIA ST	60643	ILD980265797
CHICAGO PARK DIST CURIE PARK #408	4949 SO ARCHER	60632	ILD100618719
CHICAGO PARK DIST HORNER PARK	2741 W MONTROSE AVE	60618	ILD980998371
CHICAGO DEPT STREETS & SANITATION	T37N R14E N1/2 NE1/4 SE1/4	60628	ILD981194699
CHICAGO REGIONAL PORT DIST	111TH & DOTY AVE	60633	ILD981194103
CHICAGO PARK DIST ARMOUR SQUARE	3309 SO SHIELDS	60616	ILD980998389
CHICAGO PARK DIST COLUMBUS PARK	500 SO CENTRAL AVE	60644	ILD980998397
CHICAGO PARK DIST GARFIELD PARK	NEAR RTE 290 & INDEPENDENCE	60624	ILD980998405
CHICAGO ROLLER SKATE CO	4255 W LAKE ST	60624	ILD005474242
CHICAGO WHITE LEAD	1400 SOUTH WESTERN STREET	60608	ILD982074668
CHICAGO SHOT WKS	ADDRESS UNREPORTED	99999	ILD980678312
CHICAGO PARK DIST LINCOLN PARK	NEAR LAKE SHORE DR & BARRY	60657	ILD980998355
CHICAGO PARK DIST HUMBOLDT PARK	1400 N SACRAMENTO	60622	ILD980998363
CID#2 AND PUG MILL	134TH ST & CALUMET EXWY	60633	ILD981532823
CLASSIC CHEM	1914 SO KILBOURN AVE	60602	ILD980820849
COLUMBIA METAL SPINNING CO INC	1644 W WRIGHTWOOD AVE	60614	ILD005187802
COMMONWEALTH EDISON CO TSS 114 NORTHWEST	3501 N CALIFORNIA	60618	ILT180015216
COMMERCIAL POLISHING & PLATING CO	1223 WEST LAKE STREET	60607	ILD005163993
COMMONWEALTH EDISON NORTH STA	1122 N CROSBY ST	60611	ILD980606321
CPC NORTH AMERICA INC BEST FOODS	2816 S KILBOURN AVE	60623	ILD005102686
CUSTOM ORGANICS INC	1445 W 42ND ST	60609	ILD005450697
DEVOL & RAYNOLDS	800-808 WEST SUPERIOR STREET	60622	ILD982074676
DIAMOND SHAMROCK CORP	4201 W 69TH ST	60629	ILD072361926
DIAMOND RED PAINT CO	2750 NORTH LINCOLN	60614	ILD982074684
EAGLE WHITE LEAD	415 NORTH PEORIA AVENUE	60622	ILD982074692
FEDERAL-MOGUL CORP METAL RMVL TOOLING DV	1834 W COLUMBIA ST	60626	ILD980606354
FORD MOTOR CO	12600 S TORRENCE AVE	60633	ILD060364882
FORT MADDEN IND	6212 S NEW ENGLAND AVE	60638	ILD066205204
FORT DEARBORN MFG	1574 HOMER STREET	60622	ILD982074700
FOSECO INC	10823 S LANGLEY AVE	60628	ILD051067866

Site Name	Street Address	ZIP Code	EPA ID
FREEMAN UNITED COAL MINING (SIA)	300 W WASHINGTON	60606	ILD046170577
GOLDSMITH BROS	1325 W 59TH ST	60636	ILD980606420
GORDON SITE	1700 S. STEWART STREET	60616	ILD984837815
GOSS PRINTING	16TH AND PAULINA	60622	ILD984775007
GREAT LAKES LIMITED PARTNERSHIP (SIA)	505 N LAKESHORE DR SUITE 606	60608	ILD980900880
GRIFFIN PLATING CO	2020 N HOLLY ST	60614	ILD005058037
HEATH & MILLIGAN	170 RANDOLPH ST.	60604	ILD981536063
HEATH & MILLIGAN	96 SEWARD ST	60604	ILD981536071
HEATH & MILLIGAN	1833 SEWARD ST	60610	ILD981536089
HEATH & MILLIGAN CO	787 S CANAL	60607	ILD980704472
HEIMRICH MARTIN (SIA)	1554 JUNEWAY TERRACE	60626	ILD980898787
HEPPERS ELLSTON ROOFING CO.	4440 FILLMORE	60624	ILD984774976
HIRST & BEGLEY CO	2013 MENDEL ST	60647	ILD980606545
HOBART CORP	2815 W ROSCOE ST	60618	ILD076857705
ILLINOIS SMELTING AND REFINING COMPANY	410 NORTH PEORIA AVENUE	60622	ILD982074718
ILLINOIS CENTRAL RR TRACKS	119TH STREET EAST IL CENTRAL TRACKS	60628	ILD980677645
ILLINOIS WAREHOUSE INC	3615 SO. IRON	60608	ILD980677652
INLAND METAL REFINING CO INC	651 E 119TH ST	60628	ILD980503213
J-P REFUSE DSPL LIMITED	5756 W 65TH	60638	ILD980677678
L.H.L. #2	116TH & N & W RR	60617	ILD980902043
LAKE CALUMET QUAD	810 E 124TH ST	60628	ILD980606362
LAURA WARD ELEMENTARY SCHOOL	410 N MONTICELLO AVE	60624	ILD100620707
LAUSDTEN	78 PRATT ST	60645	ILD980704514
LIQUID DYNAMICS	655 E 114TH S	60628	ILD074410390
MAGNUS COMPANY INCORPORATED	4041 EMERALD AVENUE	60607	ILD984766360
METRO SAN DIST #3	125TH ST & DOTY AVE	60628	ILD981194111
METCALF PARK	4130 - 4300 ST STATE ST	60653	ILD980677769
NAKEN CO	2037 N CAMPBELL	60647	ILD057849978
NAME UNREPORTED	ADDRESS UNREPORTED	60627	ILD980678007
NATIONAL LEAD CO FCTY #13	1516 SOUTH STATE STREET	60605	ILD982074726
NELSON BROTHERS DRUM INC	1420 W HUBBARD	60622	ILD980680029
NO NAME	RAVENSWOOD AVE	60640	ILD980606453
NUBIAN PAINT & VARNISH	LECLAIRE & MOFFAT	60639	ILD984774992
O'HARE AIR RESERVE FACILITIES	MANNHEIM RD	60666	ILD049484181
OLD PAINT MFG. SITE RIVER WEST PLAZA	770 NORTH HALSTED STREET	60622	ILD984775031
PEOPLES GAS LIGHT & COKE	DIVISION STREET & ELSTON AVENUE	60622	ILD982074783
PEOPLES GAS LIGHT & COKE	445-481 WEST 24TH PLACE	60616	ILD982074742
PRAIRIE DEVELOPMENT LTD	2200 N LAKEWOOD	60614	ILD981795545
RAYMOND LEAD CO	940-944 WEST HURON STREET	60622	ILD982074734
REPUBLIC STEEL CHGO DIST	11600 S BURLEY AVE	60617	ILD056623598
ROUSSELLE CORP	7201 S NARRAGANSETT	60638	ILD096802160
ROUSSELLE CORP	2310 W 78TH ST	60620	ILD005086673
SACRAMENTO PLT	2800 S SACRAMENTO AVE	60643	ILD980606537
SCA CHEM SERV INC ILLINOIS DIV	11700 S STONY ISLAND AVE	60617	ILD000672121
SHERWIN WILLIAMS CO THE	11541 S CHAMPLAIN AVE	60628	ILD005456439
SHIPMAN D B WHITE LEAD CO	CORNER ST & 15TH ST	60605	ILD980607147
SOUTHERN WHITE LEAD CO	900 W 18TH ST	60608	ILD030901169
STEARNS QUARRY	SOUTH HALSTED AND WEST 29TH STREET	60608	ILD984767780
STIFFEL CO THE	ADDRESS LENTHY SEE FILE	60603	ILD081035867
TAYLOR SPRING MFG CO	7830 S OAKLEY AVE	60620	ILD005086087
TOUHY AVE SEXTON	7033 N KEDZIE AVE	60648	ILD980606552
UNITED LEAD CO.	INTERSECTION WASHINGTON & LEXINGTON	60607	ILD984774984
103RD STREET TRANSFER STA	T37N R14E SE1/4 NE1/4 NE1/4	60617	ILD020038089
34TH & KEDZIE	34TH & KEDZIE	60623	ILD981101330

TOTAL 94

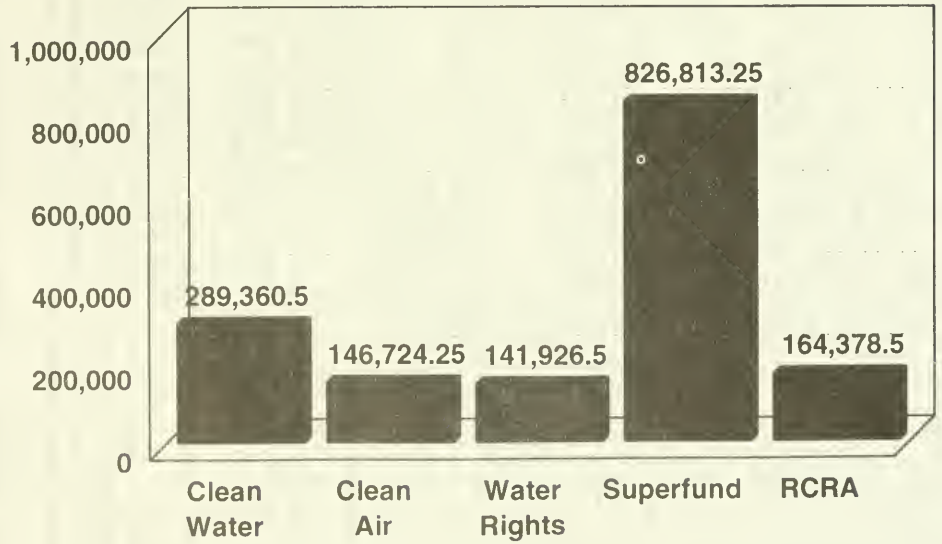
Mr. BILBRAY. Then I've got some charts that staff has prepared. The EPA and the States, some States have defended what is termed as the polluter pays principle, including retroactive strict joint and several liability. My concern is the massive amounts of resources that are going into the administrative costs associated with this system.

The first chart is the cleanup spending from 1995 on certain sites. The spending included the PRP and the litigation and transaction cost of over $1 billion in Federal Government administration, overhead costs of $680 million in 1995.

[The charts follow:]

Distribution of Division Time by Hours Billed, FY1991-1993

Department of Justice -- Environment & Natural Resources Division



Categories over 100,000 Hours

Mr. BILBRAY. Now I've been involved in cleanup of environmental problems and I've been involved in the administration of environmental strategies, everything from the Clean Air Act in California to sewage to hazardous waste. All I'm saying is that the level that I function at, if I would show these numbers to my constituency, I would have been recalled on sight.

There's just no way I could justify this to the consumer, to the taxpayer, basically to the bosses. I'd like to ask the States, is this the type of program that the States want to implement? Aren't there a lot of cleanup costs related to liability schemes that could be eliminated?

Frankly, could we, instead of making sure the trial lawyers get a little piece of this action, see that the environment gets a little more?

Mr. STROCK. Mr. Chairman, we would certainly strongly agree with you. As I believe you're aware, the RAND Corporation, a nonpartisan, very significant group based in California, found that as much as 30 percent overall at all these sites was going to transaction costs. Thirty percent of the cleanup costs, which is obviously tremendous waste of money.

It puts all environmental programs at threat when people begin to identify all of our efforts with their experience in Superfund, and that's our greatest concern over time.

Ms. DUNLOP. Yes, Mr. Chairman, this is certainly a problem that we're dealing with as we talk about this issue in Virginia. It is one of the reasons that we talk in our testimony about returning the program and the resources to the State. We well understand that if the program and the resources are returned to the State, cleanups can be handled much more quickly with many fewer dollars involved and we can get about the business of getting these sites cleaned up.

Mr. DIPASQUALE. Mr. Chairman, I think everyone wants to avoid that kind of a scenario. They don't want to be wasting money on non-cleanup activities. I think, while we're looking at a liability standard there that promotes that, I think it also, if other States are able to go ahead with voluntary programs, innovative programs like I mentioned before in California, that you can cut way down on those transaction costs.

There has to be the backdrop, as the OTA report suggested, the backstop that really allows those opportunities to be taken advantage of. PRP's or other parties would be motivated then to voluntarily enter into agreements and clean sites up rather than being part of an enforcement process.

Mr. BILBRAY. My question is, this is what's happening right now? Have we seen any indication under the existing structure that this is true in any change?

Mr. DIPASQUALE. These are enforcement-led cleanups, I assume?

Mr. BILBRAY. Yes. The numbers go down. And I would like to give Mr. Fields here a chance to—I'm just saying, as somebody who has worked with the Federal Government in trying to do Federal cleanup, we seem to have a problem coping with the fact that finding blame and fault does not automatically equate to improvement and cleanup of the environment.

It's almost as if the process of finding fault and pointing fingers and finding blame is even more important than taking care of the problem. I would just say, it's almost as if it's an obsession for mutually assured destruction through the use of the legal system, rather than us all agreeing that this is a situation we want cleaned up. I'm just looking at these numbers, and the resources are not being channeled towards cleanup, but towards finding fault.

But I do want to give you a chance to be able to at least explain to me, so I can explain to the citizens that are living in a polluted environment, why our Federal Government is spending the resources the way it is, and how this is protecting them.

Mr. FIELDS. Let me just say that we recognize that the Superfund law needs to be changed, and I think it's something we all agree on. We want to fix the law and you do, too. We agree with that.

This program has some things that cannot be improved by regulatory change under the current law. We've got to fix it. But I do want to point out that each year for the last 5 years, more than $1 billion has been committed to by responsible parties, due to Superfund, in cleanup by responsible parties, where they are signing up for design and construction, $1.5 billion a year.

We are spending in Superfund a trust fund of $1.5 billion for the last several years. That money, about $900 million of that, has been spent on cleanup kinds of activities. That includes more than $300 million last year on removal activities, another $300 million-plus on remedial construction.

I have to go back and look at what the data says, and whether the data here are valid in terms of how it would capture construction, but I know for a fact that comparing to where we were in the 1980's, where we were primarily a program that was involved in studies, most of the money now is going into construction and activities as compared to studies.

The 1980's were the decade of the Superfund studies. Right now in the 1990's, most of the money has been shifted to design and construction activities. The commitments that responsible parties are committing to are for implementation of design and construction activities by responsible parties.

Mr. BILBRAY. In those numbers of design and construction, do you include administrative overhead and administrative supervision by the EPA?

Mr. FIELDS. In my figure of the $300 million for removals, the $300 million for the construction activity, that does not include the administrative overhead. The $1.5 billion overall does include. I mean, we include, for example, paying for our staff. About $300 million of those dollars, $1.5 billion, is devoted to pay the salaries of staff involved in managing the program.

That includes almost 1,000 on-scene coordinators and remedial project managers that are out in the field overseeing and managing cleanup. Those personnel costs are part of the overall $1.5 billion, but the figures I cited for remedial action, $300 million, the $300 million for removals, that is actual moving dirt, construction activity in the field. That does include administrative overhead.

Mr. BILBRAY. I had one more question. Mr. Strock, you can leave any time. I know you're kind of squeezed here. I understand the frustration of playing ping-pong across a continent.

The second chart is the amount of manpower devoted to Superfund enforcement by lawyers of the Department of Justice. In 1990–1992, as you can see, the amount of time devoted to Superfund dwarfs the other programs. The Department of Justice allocated over $32 million a year from the Superfund budget. This fund is in addition to the $200 million that EPA admits that it spends on its own enforcement activity.

Again, looking at these numbers, can the States be able to distribute this responsibility and address these problems without this type of legal overhead? And do we think that State enforcement time should be focused on current polluters, or on historical problems, as has been traditionally done by the Federal Government?

Ms. NORTON. As an attorney, I can certainly say that this program really should never have been one that is so driven by attorney hours and attorney involvement. We have seen in some of our Colorado experiences, trying to trace back over—for successors in interest over a 100-year period to find who is involved in creation of the problems at some of our sites.

I think polluter pays is a very valid principle when we're talking about activities that are taking place today in today's time periods. As we try to complicate the process by tracing back who is responsible in the past, we create many problems.

Clearly, if we were starting over from scratch, that would be something that we would never include in our program, if we knew what we were getting involved in.

Today we have the problem of, where do we go from here, now that we have had companies who have gone forward voluntarily to try to undertake cleanup processes, or who have gone ahead and done what they needed to do based on their liability. As I said before, there are no easy answers. There are no clear ways to solve these kinds of problems.

I think the States are in a position to be able to move forward with what really needs to be done to solve the problems and to try to simplify the process as much as possible so that we can move forward to really solve the problems that exist.

Mr. BILBRAY. Any other comments?

Mr. FIELDS. I'd like to make one brief comment. On those numbers, the $32 million that the Department of Justice spends on Superfund each year for enforcement is added to the $150-or so million that EPA spends on enforcement.

I think that the enforcement dollars we spend at Superfund are spent real well. There's a good return on investment. For every dollar we spend, there's a $9 return on that investment. That includes the $1.5 billion we get in returns on commitments from responsible parties, another $200 to $300 million in cost recovery.

I think the enforcement $200 million spent each year for getting a return of $1.8 or $1.9 billion is not a bad return on investment.

Mr. BILBRAY. Mr. Fields, let me just say that as somebody who has worked with the EPA, and worked trying to clean up hazardous waste sites, the frustration that I have is you don't see that,

first of all, there are massive amounts of private resources going into that litigation on the other side.

Then there is the critical component for many of us, especially those of us that live in poorer communities. The time factor that this game that's being played by lawyers in courtrooms may look very good on paper, but when your children are living next to the material, you want the resources to be put into cleaning it up as quickly as possible and addressing the issue. But so often this stuff gets dragged on and there are actually on-site problems that are not being addressed that much, mostly because historically there seems to be an obsession, by people who claim to be interested in cleaning up the environment, with being more out to get the property owner, or get a business.

It's almost an anti-private sector business mentality, rather than pro-environment. My biggest frustration, having devoted much of my public life to cleaning up environmental problems, is this hypocrisy, if not immorality, that I see in certain government agencies that have hidden behind environmentalism to be able to justify attacking the private sector.

I think that the environment has been hurt, and I think strongly those who are disadvantaged, poor, needy are bearing the disproportionate burden of the failure of the system that we've been operating under.

I understand you're proud that your lawyers have been able to get this money, but I'm looking at total cost, not only in dollars and cents but in human exposure.

Mr. FIELDS. I agree with your comment, and I know Carol Browner has worked real hard the last couple of years to change that posture, to try to make EPA an Agency that is reasonable, that is working together with all sectors, including the private sector, and trying to change the tone of our letters, our communications.

I agree with you that we still need to do some work in this area of being able to better communicate our message without appearing to be anti-business or not being willing to work with people. I agree with your assessment.

Mr. BILBRAY. I tell you, a lot of you are going to get sick of it here in Washington, but I challenge you to look at what the Air Resources Board in California did in the last 20 years and the transformation, where they're working with the private sector, working with the community at cleaning it up. Actually helping the business community do the environmentally responsible thing, and we've shown you do not have to be anti-business to be pro-environment.

In fact, they've seen that business and the profit margin is the greatest incentive that we can use for cleaning up the environment, and we need to try to encourage that, that capitalism is the secret weapon of this country. We saw the failure of socialism in the Eastern bloc when it came to environmental issues.

The State of Virginia wanted to make a comment before I close this section of the hearing.

Ms. DUNLOP. I appreciate that. Let me just say that we agree with you entirely that these numbers are out of balance. Part of the reason that Virginia made the decision to revert the program

to the Federal Government had nothing to do with budget constraints. It simply had to do with the realistic understanding that we were engaged constantly in a debating mode with EPA.

We have private businesses who worked hard to come up with remediation plans for sites or local governments who came up with remediation plans, and then we got engaged in this debate over gotcha. This is exactly what all these lawyers at the Justice Department are engaged in.

We believe strongly in Virginia that if you provide incentives for people, if you look for a way to get people to voluntarily work toward remediating sites, then you could spend your professional resources and your staff time and the expertise that you have at much lower cost to the taxpayer to accomplish exactly what you said, Mr. Chairman, and that is what we're all for and that is to clean up these sites.

Mr. BILBRAY. I think most of us that are in the know, that have worked with this system, recognize that it is not acceptable as it was originally drafted. And if we want to protect the environment and the economy and the rights of citizens and the government's credibility, we not only have a right to modify and improve this law, we have a responsibility to have the guts to do the right thing.

Thank you for your testimony, because with your kind of information, we'll be able to move ahead with that. I hope that everybody, including those who feel they're part of an environmental community, recognize they have the greatest vested interest at making sure this law is straightened out and made effective for the good of all of us, and especially future generations.

Thank you very much. I would like to dismiss the panel and I would like to take a short recess.

[Brief recess.]

Mr. OXLEY. Let me introduce our third panel while they're coming to the table. Mr. Jim Kirk, OHM Remediation Services Corporation, Findlay, Ohio. Ms. Jan Linsenmeyer, Office of Technology Assessment, ETI. Ms. Lynn Yerges Buhl, senior staff attorney for the Chrysler Corporation, representing the AAMA. Ms. Florence Robinson from North Baton Rouge Environmental Association, Baton Rouge, Louisiana. Rob Atkinson with OTA is also with Jan Linsenmeyer.

We thank you all for participating, and I know that Ms. Robinson has to get back to Louisiana, so we've asked her to be our first witness. Ms. Robinson, welcome back to the subcommittee. It's good to have you here and you may proceed.

STATEMENTS OF FLORENCE ROBINSON, ON BEHALF OF NORTH BATON ROUGE ENVIRONMENTAL ASSOCIATION AND COMMUNITIES AT RISK NETWORK; JAMES L. KIRK, PRESIDENT, OHM CORP.; LYNN Y. BUHL, ON BEHALF OF AMERICAN AUTOMOBILE MANUFACTURERS ASSOCIATION; AND ROBERT ATKINSON AND JAN LINSENMEYER, OFFICE OF TECHNOLOGY ASSESSMENT

Ms. ROBINSON. On behalf of the North Baton Rouge Environmental Association, the Communities at Risk Network, and the hundreds of thousands of citizens living on or near Superfund and hazardous waste dump sites, I want to thank Chairman Oxley,

ranking member Tauzin, and the other members of the subcommittee for this opportunity to discuss Superfund reauthorization.

We, the 64 groups listed in this letter to Senator Smith, which I would like to submit for the official record, and many more groups across the United States have years of first-hand experience with the Superfund process and are keenly aware of its strengths and weaknesses. We are anxious to share these experiences with you and look forward to working with this committee to put together a better Superfund law, a law that is fair, effective, and efficient for all parties, but above all, a law that ensures the protection of our health and our environment.

Without question, those of us living on and around those toxic dump sites are the most adversely affected parties. We have been put at risk and have gained no benefits by these sites being in our communities, but we have paid a very high cost as our property has been devaluated, our quality of life, health, and even our lives have been taken.

Clearly, then, we stand to lose the most if an inappropriate and unprotective remedy design is selected and implemented. Therefore, we feel that it is essential that a strong overarching Federal Superfund program that sets minimum requirements and standards for the operation of this program must be in place before any delegation to States may occur.

These requirements should include adequate funding, stringent cleanup standards, meaningful public involvement. Citizens are extremely apprehensive about State delegation issues. In general, we feel that if States had carried out their responsibilities to provide all citizens with equal protection before the law, there would be few, if any, Superfund sites.

We therefore advocate extreme caution in the delegation of authority to States and judicious oversight by EPA in such cases to ensure that the States comply with the established minimum guidelines.

First of all, adequate funding. The delegation of the Superfund program authority should only be to States with sufficient resources and enforcement capabilities to carry out the program. The Oxy-USA old Citgo refinery site in Bossier City, Louisiana is a prime example against State delegation. Currently 4,000 people live, use, and raise families on the old refinery site.

After years of inactivity by the State of Louisiana, a citizen had to request that EPA conduct a preliminary assessment. Based on these studies, EPA ranked the site and prepared it for inclusion on the NPL in February of 1995. In January 1995, the secretary of the Louisiana Department of Environmental Quality requested EPA to assert its jurisdiction over the site, due to severe budget cuts resulting in the ability of the State to keep the site cleanup in motion.

I would like to submit these letters into the record. This is an example of what will occur if the Federal Government delegates the Superfund authority to a State with inadequate financial resources. I also want to emphasize it is not my intent to block Louisiana from some day receiving delegation of the Superfund program, but to make the point that in order for a State to receive this delegation, it must have the financial resources to carry out the mandates

of the program. Also, with the unfunded mandates bill in place, the States won't have to take any action to get any sites cleaned up.

Stringent cleanup standards. The Federal Government needs to establish a process that the States can use to arrive at cleanup levels that are protective of human health and environment. Because huge data gaps exist in our knowledge of the effects of chemicals and in what concentrations, we generally oppose the use of risk assessment models to determine cleanup levels and are positively adamant in the rejection of the use of average risk and risk comparison.

We support site cleanup standards that have a preference for treatment and permanence. We will not accept containment. We want real cleanups. Our health and the health of our children are at stake.

Above all, a federally delegated program must not pre-empt State regulations that are more stringent and protective than Federal regulation. The Federal Government cannot be allowed to get rid of the applicable in the ARAR's when delegating a program. Applicable State standards must be allowed to be enforced, also at no additional cost, to a delegated State.

If a State is a potentially responsible party at a Superfund site, that State may not have Superfund authority over that site. We think this is a conflict of interest.

Public participation. The delegation of the Federal Superfund program to a State must be accompanied by a requirement for full public participation. The opportunities for public involvement must be at least equal to that provided by the Federal program. The Federal Superfund program should be amended to require meaningful public involvement, beginning with the hazard ranking system process, and continue as long as the site must be monitored.

We the people living on top of and near the Superfund sites are the most directly affected and should have an enforceable right to participate in the decisionmaking process. Citizens also must have the right to petition EPA to remove State delegation from their site if they feel it is not being handled properly.

TAG grants should be easier to obtain and should be available from the beginning of the process until the site no longer requires monitoring. Matching fund requirements need to be dropped.

Whether the Federal Government administers the Superfund program or delegates it to some States, the issue of liability is critical. The citizens who live in the affected communities are nearly unanimous on the issue of retaining retroactive liability and site-specific polluter pays principle.

We wholeheartedly reject any public works type of program that drops this liability and depends chiefly on taxes. There simply will not be enough money to maintain the level of cleanups, research on new technologies, and provide contaminated communities with the health services they deserve.

Sites will end up being abandoned, capped, or contained, and these alternatives are simply not acceptable. We want real cleanups. We do not want to die as a result of living in Superfund communities. We, the citizens living in these toxic communities, want the Superfund program reformed now in order to ensure fast, safe,

and effective cleanups. We look forward to working with you to that end. Thank you very much.

[The prepared statement and attachments of Florence Robinson follow:]

STATEMENT OF FLORENCE ROBINSON, ON BEHALF OF NORTH BATON ROUGE ENVIRONMENTAL ASSOCIATION, AND COMMUNITIES AT RISK NETWORK

I. INTRODUCTION

On behalf of North Baton Rouge Environmental Association, the Communities at Risk Network and the hundreds of thousands of people living on or near Superfund and hazardous waste dump sites, I want to thank Chairman Oxley, ranking member Tauzin, and the other members of the Subcommittee for this opportunity to discuss Superfund reauthorization.

After years of first-hand experience with the Superfund program, we are keenly aware of its strengths and its weaknesses. We are anxious to share these experiences with you and look forward to working with this Committee to put together a better Superfund law. A law that is fair, effective and efficient for all parties but above all, a law that ensures the protection of our health and our environment.

Without question, those of us living on and around these toxic dump sites are the most adversely affected parties and stand to lose the most if an inappropriate and unprotective remedy design is selected and implemented.

Although the focus of today's hearing is the role of the States in Superfund, my testimony will also include a discussion of public participation, cleanup standards and remedy selection, liability and health grants.

II. THE ROLE OF THE STATES IN SUPERFUND

Citizens are extremely apprehensive about State delegation issues. In general we feel that if States had carried out their responsibilities to provide all citizens with equal protection before the law with integrity and commitment, there would be few, if any Superfund sites. We therefore advocate extreme caution in the delegation of authority to States, and judicious oversight by EPA in such cases. Whether a State or the Federal Government carries out the Superfund program, it is ultimately a decision that should be based on pragmatic considerations, not ideologic ones.

Chief among those considerations is whether, and to what extent, the State role can be expanded without undercutting other critical objectives of Superfund reform: faster, better cleanups with lower transaction costs. It is essential that State roles not be expanded at the cost of causing slower or poorer-quality cleanups. Equally important, those of us living near Superfund sites have waited long enough for action. And, as discussed in greater detail below, an expansion of State roles cannot be allowed to undercut public participation rights.

Expansion of a State role cannot be allowed to serve as a fig leaf for reduction in overall funding. During the last 15 years, cleanup of high-priority hazardous waste sites has become firmly established in the public's mind as a matter of Federal significance. It would be profoundly unfair to the States, as well as inconsistent with Congress's recently expressed concerns about unfunded mandates, for Uncle Sam simply to announce that the matter is no longer considered one of Federal concern. Merely doing so will not lower the public's expectation that these sites will be addressed.

Finally, State delegation must ensure that States will meet or exceed protective Federal cleanup standards. Obviously, States should not be at liberty to administer Superfund cleanups that will fail to protect their citizens. At the same time, there is no rationale for preemption of State standards that are more protective. Applicable State standards must be required at no additional cost to a delegated State.

With these precepts in mind, the following factors are critical in determining the extent to which State roles should be expanded.

First and foremost is, do particular States actually want the program? Some States reportedly do not, and for good reason. For example, in States with relatively few sites, it may be horrendously inefficient to implement a full-fledged program with all the necessary technical expertise, enabling legislation, and implementing regulation. Like any other complex problem, the Superfund program involves a steep learning curve for those involved in it, whether they be Federal, State or private individuals or organizations. No one will benefit from requiring States to reinvent the wheel merely for the sake of de-federalizing Superfund cleanups: not businesses dealing with a State that lacks Superfund expertise, not the State itself, and certainly not us.

Based on their 1993 analysis of State Superfund programs,[1] staff of the Environmental Law Institute (ELI) estimated that no more than a dozen States are currently capable of operating cleanup programs comparable to the Federal program.[2]

The ELI study demonstrates that States vary widely in their staffing levels, funding levels, and public participation provisions (see Attachment 1). For example, staff levels range from 668 in New Jersey to 2 in Arkansas. Ten States have more than 100 program staff, while 5 have fewer than 10. The study also indicates that for one important component—namely enforcement attorneys—only 14 States have more than three attorneys apiece.

Yet another important variable is the total number of sites in the State—both those on the Superfund National Priorities List (NPL) and other sites requiring cleanup. This factor affects the overall level of demand on a State's cleanup capacity, and the State's ability to take on additional responsibilities given its available resources. Although it might be thought that the number of NPL sites in a State would be roughly proportional to the number of non-NPL sites, this turns out not to be the case. For example, while my State Louisiana and Utah both have 12 final NPL sites, Louisiana has 1,287 sites on its State priority list, while Utah has only 13. Similarly, Mississippi and South Carolina both have roughly 100 sites on their State priority list, but South Carolina has 12 times as many final NPL sites (24 versus 2). It is not clear whether these variations principally reflect differences in the actual scope of the problem from State to State, or differences in State programs.

Second, how can a State role best be structured? As experience under other environmental programs such as the Resource Conservation and Recovery Act (RCRA) has demonstrated, authorizing States can be a laborious process. Yet it seems self-evident that Federal tax dollars should not be turned over to States without some assurance that those funds will be used efficiently and in a manner that meets the statutory objectives. The broader the delegation, the more intensive the review, since it will entail consideration of a wider variety of circumstances. Such a review would itself take both Federal and State resources, diverting them away from improving other components of the program. An in-depth review makes sense in a few instances in which particular States have both a significant number of sites as well as the interest and apparent ability to handle them, however, it should not be the only approach.

Given that States range so widely in their current characteristics, a one-size-fits-all approach is plainly inappropriate. Thus, the most appropriate approach may be to allow EPA to designate particular sites as State-managed sites, while retaining responsibility elsewhere. For the few States that are ready to assume the program in its entirety, all sites could be thus designated. Full public participation in this designation (whether site-specific or statewide) should be required.

States often are themselves potentially responsible parties (PRP's) under Superfund. To avoid the conflict of interest that would otherwise result, States should not be delegated sites at which they are PRP's. Making authorization a site-specific matter allows separation of the roles of PRP and enforcing agency, while still allowing some State participation.

Finally, it appears that sites probably should be ineligible for designation as State-managed once a Record of Decision has been signed. Allowing designation after that time is likely to produce delay with little or no compensating benefit.

Third, what criteria should a State meet before having one or more sites designated as State-managed? In brief, we believe that there are three essentials: authority to act, access to adequate resources, and ensuring full-fledged public participation. The first is probably the easiest, and perhaps could be dealt with through a formal finding by the State's Attorney General. Such a finding would be needed only once in a particular State (absent subsequent changes in statutory or regulatory authority).

The remaining issues are tougher. Adequacy has to do with both expertise and money. No Superfund program can function without an ability to review hazards at the site and monitor the cleanup; a State that lacks hydrogeologists and toxicologists would simply allow PRP's to do their own thing without effective supervision.

Equally of concern is the need to ensure that adequate funding will be available *throughout the duration of cleanup activities* (including monitoring where relevant).

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[1] U.S. Environmental Protection Agency Office of Solid Waste and Emergency Response, *An Analysis of State Superfund Program: 50-State Survey, 1993 Update.* Washington, DC: U.S. EPA. Pub. No. 9376.6-08C EPA 540/R-94/008 PB94-963230 (December 1993). Prepared by the Environmental Law Institute for EPA.

[2] McElfish, J.M., and Pendergrass, J. "Learning from the States." *Environmental Forum.* pp. 17–23 (November/December 1993).

Seldom if ever can a site be fully cleaned up within one fiscal year. EPA should not designate sites as State-managed absent a demonstration that there are, and will remain, adequate resources for the State to carry out the responsibilities at that site. Almost always, this will entail use of dedicated funding mechanisms rather than ones that are principally based on appropriations from general funds which are subject to profound fluctuations from year to year. In addition, the adequacy of enforcement resources becomes crucial in this regard, given the role of reimbursement from responsible parties as a source of funding.

In addition, EPA must take into account whether a State will have the political will to pursue particular PRP's that happen to be economically (and politically) significant players within the State. This issue is a recurrent one within environmental policy.[3] While the context is slightly different here (since Superfund sites themselves cannot relocate), precisely the same kinds of interstate competitive pressures may emerge in terms of State decisions to pursue PRP's at particular sites with greater or lesser degrees of vigor.

Finally, full rights of public participation are essential in all cleanups, regardless of whether States or the Federal Government is in charge. Any State authorization, be it site-specific or statewide, should expressly require that a State provide the public with at least as much opportunity to participate as would occur under the Federal program. The ELI study on State programs reports that fewer than half of the States—only 22—provide for public participation through statutory or regulatory provisions. Another 21 States seek public participation strictly on a voluntary or ad hoc policy basis. Remarkably, only 18 States require public notice at one or more points in the site handling process. Only 13 States have mandatory provisions for public meetings or hearings.

These statistics paint a picture of public participation not as a right but rather as an afterthought. We are the people living near—in some instances, literally on top of a site whose lives are the most directly affected. Surely we should participate as a matter of right.

III. PUBLIC PARTICIPATION IN THE SUPERFUND PROGRAM

We strongly believe that informed and involved citizens are essential to ensuring faster, more cost-effective Superfund cleanups. In fact, as is discussed in Attachment 2, we find that when we are provided early and ongoing access to useful information and a meaningful opportunity to express concerns and participate in decisionmaking, we will seriously consider the realistic costs and benefits of conducting environmental cleanups. Well-informed citizens will, where appropriate, more likely opt for the best, most timely and cost effective remedy possible.

The Administrator of the Agency for Toxic Substances and Disease Registry recently testified before this Committee that approximately 11 million people live within a mile of a Superfund site. Those individuals, and their neighbors, have a right to participate in the process of addressing those sites.

At present, section 117 of the Superfund law[4] provides an opportunity for public involvement only to communities whose sites have been ranked and placed on the NPL. Even for citizens living in communities with NPL sites, section 117 limits public involvement to commenting upon the proposed remedial action plan. The section also authorizes the Administrator to provide Technical Assistance Grants (TAG's) to citizens but, again, only for citizens living in communities whose sites have been ranked and placed on the NPL. Finally, although EPA does provide additional public access to citizens through administrative actions, these efforts come too late in the process; moreover, their implementation, which is left to the regions, is not consistent among or within the regions.

We believe that section 117 must be amended to require meaningful public involvement beginning with the Hazardous Ranking System (HRS) process, through the initial site investigation, remedy selection and remedy implementation phases, and continue for as long as a site must be monitored. We also believe that the TAG program must be reformed and expanded to provide funds to communities whose sites have either not been ranked or are in the midst of the ranking process. Finally, we believe that section 117 must be amended to include an enforceable right for citizens to participate in the process to ensure a meaningful and consistent level of participation for all Superfund communities.

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[3] For example, one of the purposes of the Resource Conservation and Recovery Act was to ensure that "a State with environmentally sound laws does not drive business out of the State." H.R. Rept. No. 1491, 94th Cong., 2d Sess. 30, reprinted in 1976 U.S. Code Cong. & Admin. News 6238, 6268.

[4] The Comprehensive Resource, Conservation and Recovery Act of 1980, 42 U.S.C. 9617.

A. Public Participation is Limited to NPL Sites.—As currently drafted, section 117 only applies to those sites that have scored high enough on EPA's Hazard Ranking System (HRS) to be included on the NPL, the list of the allegedly worst toxic dump sites in the country. Unfortunately, the validity of the HRS system has been, and continues to be, called into question, most recently for its under-representation of communities of color. Despite the fact that people of color are heavily over-represented in metropolitan areas with the largest number of uncontrolled hazardous waste sites, the majority of sites which have been scored and slated for cleanup on the NPL are in white communities.[5] As a result, many low income and minority communities are denied the public involvement opportunities afforded to other communities.

To address this inequity, we support revising the HRS to better account for this historic under-representation of communities of color and poor communities. In addition, we believe that the establishment of a nonprofit, citizen run organization composed of a representative group of citizens in each state to act as an ombudsman between the EPA and Superfund communities, to collect and disseminate information and to educate the public about toxics in their community and the Superfund process would also help redress these environmental justice concerns.

B. Citizens are Excluded From Critical Decisions.—Even when a site is included on the NPL, citizens are excluded from participating in many critical Superfund site decisions which follow site listing. Under the current statute, EPA is required to inform the public and take comment from citizens on the proposed remedial action plan. In the view of many citizens, this is far too late in the Superfund process to allow for meaningful input. The critical decisional stages where the current law does not provide for citizen involvement include: (1) preliminary assessment and site investigation (PA/SI); (2) development of site health assessments studies; and (3) remedy implementation and oversight. Decisions made at these stages can have a profound impact on human health and the quality of a Superfund community's environment.

We support amending section 117 to mandate opportunities for public involvement at the three critical stages outlined directly above. In addition to providing more and earlier opportunities for public involvement, we support the formation of Community Task Forces or Working Groups where the group includes a majority of the local community living in the zone of highest potential exposure to provide on-going and in-depth community input into EPA's decisionmaking process.

C. The TAG Program Has Failed to Provide Adequate Assistance.—Under the Technical Assistance Grants program, EPA provides funding for communities to hire technical experts to help local citizens find their way through the complex issues presented by Superfund cleanups. Unfortunately, this program has been far less successful than was originally hoped. Despite the existence of some 1,300 sites on the NPL, EPA has only received some 213 TAG requests and issued 162 TAG's as of May 4, 1995. In November 1992 testimony before the House Public Works and Transportation Committee, the U.S. General Accounting Office (GAO) concluded that, at least in part, EPA's "limited emphasis on TAG program outreach efforts at the headquarters and regional levels... contribut[ed] to the low participation in the program."

In addition, GAO cited some of the following factors as contributing to the low number of TAG grant applications received and awarded: (1) the Federal TAG application process is highly bureaucratic and time consuming and deters many citizens from successfully completing the process; (2) the 20 percent citizen matching fund requirement intimidates many potential grant recipients to contribute "in-kind" services in lieu of cash to meet the matching requirement; (3) the TAG disbursement requirements which require successful recipients to spend their own funds up front, then seek reimbursement from the EPA; and (4) the lack of adequate EPA resources to publicize the grant program and provide hands-on assistance in grant application procedures.

In another report issued last year,[6] GAO concluded that "many residents... had trouble obtaining information on TAG's... For example, residents at the TRI-County Landfill in South Elgin, Illinois, asked us to give them any information we might have on the grants because they were unable to obtain the information from EPA." (Id., p. 35.)

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[5] Commission for Racial Justice, United Church of Christ. *Toxic Waste and Race in the United States*, p. xiv (1987). See also, "Unequal Protection: the Racial Divide in Environmental," *National Law Journal* (special Investigation), p. S6 (September 21, 1992).

[6] U.S. General Accounting Office. *Superfund: EPA's Community Relations Efforts Could be More Effective.* Washington, DC: U.S. GAO (1994). GAO/RCED-94-156.

Although EPA has worked to improve its TAG program, and has published four new handbooks describing the TAG application process since publication of the 1994 GAO report, we are still aware of community groups who find EPA's new TAG handbooks overwhelming. These groups believe that although the books are physically smaller and appear less intimidating, the text of the material is still overly technical. Interestingly, GAO's 1994 study also reviewed the "readability" of a sampling of 20 EPA public relations documents. GAO found that 16 required some college education to understand, even though a 6th-to-10th grade reading level is recommended for documents intended for the general public. GAO concluded, "[g]iven the difficulty of reading these materials, EPA may not be ensuring that all citizens understand the cleanup issues." (Id, p. 10.).

To address these concerns, we support the following revisions to the TAG program:

(1) Make TAG's available earlier, as soon as a site is identified, so that citizens can participate in investigations that may lead to the site's listing.

(2) Simplify the TAG application process, ensuring that all documents are readable to the general public.

(3) Remove the matching funds requirement. Many local communities are unable to raise funds. In many instances they have no access to funding sources. Even where funds are nominally available, ordinary citizens often lack the sophistication to write grant proposals successfully.

EPA has stated that one purpose of the matching funds requirements was for EPA to be sure that it was awarding grants to a "legitimate" group. There are alternative mechanisms for EPA to use to measure "legitimacy", including:

(a) evidence of a stable membership through membership lists, meeting attendance records and/or frequency of meetings;

(b) evidence of willingness to participate in the process by meeting attendance, letter writing or phoning campaigns, etc.;

(c) letters from local officials in support of a group; or

(d) incorporation as a non-profit entity.

(4) Reverse the current funding and oversight mechanism for TAG's by providing citizens with TAG funds immediately instead of reimbursing citizens for expenses. Citizens would be required to report to EPA annually regarding the use of TAG funds.

(5) Remove the restriction making TAG's available over only a 3-year period. On average, the current process lasts at least 10 years, and in many cases more. This arbitrary time limit can be a barrier to effective community involvement.

(6) Rather than a program where each site may receive the same amount of funding and may or may not be successful in obtaining a renewal grant, EPA should make an initial award of a flat fee (e.g., $50,000), and eventually base the total grant amount, to be spread over the estimated period of site activity (e.g., until de-listing), on a number of criteria, such as:

(a) total projected cleanup costs;

(b) complexity of site (e.g., nature, extent and volume of contamination, etc.);

(c) level of site activity;

(d) projected total needs as requested by citizen groups;

(e) size and diversity of affected population; and

(f) ability of a TAG recipient to identify and raise funds from other sources.

(7) Provide assistance to successful grant recipients to ensure that the recipients can comply with the administrative grant requirements.

D. EPA's Public Relations Program Should Not Be Left to the Discretion of the Agency or Regional Offices

Relying on EPA's discretion to ensure adequate public involvement does not work. GAO's 1994 Report is illustrative on this point. In a community located in Region II and audited by GAO in its 1994 report, EPA developed a community relations plan, established information repositories, provided information to the public, held public meetings and comment periods, established a local contact office and had the Community Relations Coordinator and/or the Remedial Project Manager located on the site four days a week. Although one person interviewed by the GAO at this site was not satisfied with EPA's activities at the site, the other citizens interviewed generally felt that EPA had adequately informed them about the extent of the contamination. Furthermore, the Chairman of the local citizen Task Force declined

EPA's offer to apply for a TAG grant because he felt its members "had enough expertise to understand the information EPA provided to the community". (Id, p. 26.)

In two other communities audited by GAO, the citizens were not at all satisfied with EPA's activities. At those sites (both in Region VI), EPA staff developed a community relations plan, established an information repository, held public meetings and comment periods, and provided information to the public. At one of the sites, EPA also awarded a TAG to a local group.

Unlike the Region II site that had a local information repository and contact office, citizens at the Texarkana Site in Region VI complained that EPA's document repository was inaccessible and felt that the library did not have the space or staff to maintain the repository. During their field visit to the repository, GAO indeed found the records to be inaccessible:

> During our review, we found the Texarkana repository overwhelming. We counted 62 microfiche cards related to EPA's decision to use incineration alone; another shelf was full of microfiche cards on other related site documents. Each microfiche card could contain 20–30 pages of text. The library has two microfiche viewers, but only one has photocopying capability. the charge is 25 cents per page to make a photocopy." (Id, p. 33)

Similarly, at the Brio Site in Region VI, instead of timely meetings and the availability of an EPA official on the site four days a week, one member of the TAG group apparently made several attempts to get EPA to meet with residents and the group's technical advisor. The TAG group member reported that EPA officials refused to meet with the group, claiming that such a meeting would be "time-consuming and expensive to plan and would lead to unproductive discussions about the selected remedy. An EPA official we [GAO] spoke with said that the agency had not held a public meeting since the site's remedy was chosen about 2 years ago." (Id. p. 38).

The level of public relations services provided at these sites clearly appears uneven in many respects. Citizens need a dependable and meaningful process for public involvement. Therefore, in addition to the recommendations made above, we also support the creation of a legally enforceable right of public participation.

More specifically, PRP's and affected citizens should have the right to sue EPA if EPA fails to provide a reasonable opportunity to participate where: (1) a meeting is held between EPA and a PRP; (2) the subject of the meeting involves site notification, investigation or remedial activities at a site in the CERCLIS data base; and (3) the EPA meeting participants have the authority to make significant site remediation decisions.

At a minimum, EPA (and ATSDR in the case of a health assessment) should be required to hold public meetings prior to each of the following key points: (i) undertaking a health assessment and PA/SI; (ii) undertaking the remedial investigation/feasibility study (RI/FS); (iii) finalizing a site work plan; and (IV) EPA's announcement of preferred remedial options.

All written correspondence between the PRP's and the government or its contractors regarding site remediation also should be available for public inspection and copying without the need to file a Freedom of Information Act request. All other data regarding the site should be made available to affected citizens at or near the Superfund site and such documents must be maintained in an organized and usable form.

In addition, we support the creation of a legally enforceable right to intervene in administrative or judicial enforcement actions under Superfund where remedy selection or implementation might be discussed.

Finally, as occurs under most other federal environmental laws, citizens who file successful claims against EPA for failure to provide the right to participate in the Superfund cleanup process should be eligible to receive reimbursement of their attorney's fees.

IV. CLEANUP STANDARDS AND REMEDY SELECTION

Cleanup standards and remedy selection are at the heart of the Superfund process and must be driven by concern for the protection of human health, present and future. Because huge data gaps exist in our knowledge of the effects of chemicals and in what concentrations, we generally oppose the use of risk assessment models to determine cleanup levels. Although we were supportive of provisions considered last Congress in S. 1834 which limited the extent to which risk assessments could be manipulated by standardizing certain assumptions and establishing one risk level instead of a range, we were and continue to strenuously oppose several key cleanup provisions in S. 1834.

In particular, we are adamantly opposed to the reliance on land use to determine the level of cleanup at a Superfund site. Such reliance limits the future of a community by designating an area as industrial for perpetuity. It creates areas that will never be clean for other uses thereby establishing "sacrifice zones" throughout the country. And it institutionalizes a double standard of living—one for those in clearly residential areas and a lesser standard for Communities of Color and the poor who live next to industrial areas. We simply should not be institutionalizing an already disproportionate level of exposure for these communities. We seem to have forgotten that it was land use and its vulnerabilities to local political and other pressures that got us into Superfund in the first place.

In addition, we opposed provisions relating to "hot spots" and use of the "90th exposure percentile".

Citizens feel strongly that we should protect groundwater even if not currently being used for drinking supplies. Superfund should provide for the remediation of groundwater that may be used for drinking water. Groundwater is a critical national resource that should be remediated where technically feasible.

V. LIABILITY

Citizens who live in affected communities are nearly unanimous on the retention of retroactive liability and the site-specific polluter pays principle. We wholeheartedly reject any "public works" type of program that drops retroactive liability and depends chiefly on taxes for many reasons. Chief among our concerns regarding "public works" type programs are:

(1) Program will not generate sufficient funds to maintain the current level of cleanup and certainly not have sufficient funds to expand and accelerate cleanups. It is also important to note here that we absolutely reject as nothing short of outrageous, any attempt to reduce overall program costs by reducing the number and level of cleanups through manipulation of the risk assessment process;

(2) exacerbate environmental injustice issues as communities will be forced to compete for a limited "pool of money";

(3) discourage voluntary cleanups;

(4) shifts more of the burden onto the American taxpayer because it calls for an increase of the allocation from the general Federal revenues, and an increase in the share paid by States; and

(5) will not reduce litigation because it increases unfairness. Newer industries will be picking up the tab for older industries. Single-party sites would pay for multi party sites and small businesses would be taxed on the basis of their incomes instead of their contribution to pollution.

In general, we support the liability reforms contained in S. 1834, introduced during the 103d Congress. We think these reforms will significantly speed up cleanup efforts while retaining the important incentives of retroactive liability.

VI. HEALTH GRANTS AND ASSESSMENT PROGRAM

After thirteen years and billions of dollars spent on litigation costs and the treatment of contaminated soil, virtually nothing has been spent for the medical treatment of contaminated people. Therefore, we ask that $50,000,000/year be authorized to fund health "clinics" in Superfund communities. Please note that the use of the term "clinic" is used rather loosely. The actual design of such clinics must be site-specific and tailored to meet the needs of a particular community. In many cases, "clinics" could be operated out of existing clinics, hospitals, or medical centers. In other communities, a facility may actually need to be built to house a "clinic".

These "clinics" would perform four important functions: (1) to serve as a location for impacted populations to get specific diagnosis for health problems potentially associated with local toxic exposures; (2) where exposures are identified, to provide citizens from affected communities access to facilities for continuous and consistent environmental health diagnosis throughout the lifetime of an exposed individual; (3) to serve as an archive to house the clinical data on patients with the types of health problems potentially associated with the toxic exposures; and (4) to provide hands-on training of physicians in environmental medicine.

VII. CONCLUSION

Citizens living in toxic communities want the Superfund program reformed now to ensure fast, safe, effective cleanups. We look forward to working with you toward that end. Thank you.

TABLE V–1

[Overview of State Programs]

Region	State	Cleanup Enforcement Authority	Staffing Level	Fund Balance	Public Participation Requirements or Policy
1	CT	es	51	$21,775,000	Pol.
	ME	Yes	29	5,700,000	Pol.
	MA	Yes	260	23,600,000	Req.
	NH	Yes	8	3,000,000	Pol.
	RI	Yes	34	2,000,000	None
	VT	Yes	21	1,544,426	Req.
2	NJ	Yes	668	161,500,000	Pol.
	NY	Yes	343	905,400,000	Req.
	PR	Gen	8	4,185,000	None
3	DE	Yes	32	4.000,000	Req.
	DC	HW	1	0	None
	MD	Yes	34	14,000,000	Pol.
	PA	Yes	145	60,500,000	Req.
	VA	Yes	25	311,338	Pol.
	WV	HW,GW	13	2,200,000	None
4	AL	Yes	23	379,690	Req.
	FL	Yes	62	8,363,000	Pol.
	GA	Yes	10	8,260,818	None
	KY	Yes	23	5,000,000	Pol.
	MS	HW	16	2,700,000	Pol.
	NC	Yes	29	3,783,852	Req.
	SC	Yes	29	16,900,000	Pol.
	TN	Yes	51	6,260,883	Req.
5	IL	Yes	94	6,065,300	Req.
	IN	Yes	28	14,907,856	Pol.
	MI	Yes	388	18,200,000	Req.
	MN	Yes	114	5,252,000	Req.
	OH	Yes	115	34,680,714	Pol.
	WI	Yes	100	24.032,917	Req.
6	AR	Yes	2	6,202,997	Req.
	LA	Yes	44	3,056,023	Req.
	NM	Yes	32	103,634	Req.
	OK	Gen	11	260,000	None
	TX	Yes	103	30,396,128	Req.
7	IA	Yes	10	1,006,218	Req.
	KS	Yes	18	1,868,000	Pol.
	MO	Yes	40	5,800,000	Req.
	NE	GW	11	0	Req.
8	CO	GW,HW	32	13,200,000	Pol.
	MT	Yes	28	3,002,329	Req.
	ND	Yes	6	79,000	Pol.
	SD	Yes	5	1,715,767	Pol.
	UT	Yes	33	425,000	Pol.
	WY	Gen	5	0	Pol.
9	AZ	Yes	29	3,743,000	Req.
	CA	Yes	265	26,908,000	Req.
	HI	Yes	15	222,604	Pol.
	NV	HW,GW	26	6,000,000	None
10	AK	Yes	37	0	Pol.
	ID	Gen	21	3,139,032	None
	OR	Yes	99	5,476,340	Req.
	WA	Yes	114	46,302,976	Req.

TABLE V–5

[Hazardous Sites]

Region	State	Final NPL Sites	Proposed NPL Sites	Deleted NPL Sites	Known and Suspected State Sites	State Sites Identified as Needing Attention	State Inventory or Priority List
1	Connecticut	15	0	0	1475	579	642
	Maine	9	1	0	370	160	370
	Massachusetts	24	6	1	6328	5867	524
	New Hampshire	17	0	0	250	250	250
	Rhode Island	12	0	0	300	60	—
	Vermont	8	1	0	1291	1291	568
1	New Jersey	108	1	5	18519	12894	774
	New York	83	2	1	995	680	935
	Puerto Rico	9	1	0	—	—	—
3	Delaware	19	0	2	288	89	30
	District of Columbia	0	0	0	0	0	—
	Maryland	9	3	1	463	343	25
	Pennsylvania	98	1	8	3000	50	10
	Virginia	23	2	1	3100	310	—
	West Virginia	5	1	0	500	—	51
4	Alabama	12	2	1	625	125	—
	Florida	55	3	4	1015	725	—
	Georgia	13	0	0	800	—	—
	Kentucky	18	2	0	1000	500	12
	Mississippi	2	2	1	390	200	109
	North Carolina	21	1	1	665	655	155
	South Carolina	24	0	0	475	200	100
	Tennessee	14	1	1	1142	157	157
5	Illinois	31	1	2	1400	147	—
	Indiana	36	1	5	1549	82	60
	Michigan	78	4	2	9785	9785	9785
	Minnesota	42	1	0	542	184	184
5	Ohio	34	2	0	1200	771	100
	Wisconsin	39	1	0	4000	565	565
6	Arkansas	10	0	1	351	101	7
	Louisiana	12	0	0	1014	184	1287
	New Mexico	10	2	1	600	220	410
	Oklahoma	10	1	0	—	—	—
	Texas	27	3	1	1200	83	38
7	Iowa	19	5	1	900	200	67
	Kansas	13	2	3	450	200	396
	Missouri	23	0	0	1253	163	51
	Nebraska	7	3	0	370	120	—
8	Colorado	16	3	1	—	—	—
	Montana	8	0	0	265	265	265
	North Dakota	2	1	0	—	—	—
	South Dakota	3	1	0	218	218	218
	Utah	12	1	0	200	31	13
	Wyoming	3	0	0	—	—	—
9	Arizona	11	0	1	450	65	25
	California	96	6	—	26000	350	350
	Hawaii	2	1	0	2500	—	—
	Nevada	1	0	0	145	145	—
10	Alaska	7	0	0	1051	1051	1051
	Idaho	8	2	1	220	50	—
	Oregon	9	3	—	1235	102	63
	Washington	52	—	1	1029	628	401

Source: See footnote 1.

Yes = specific authority. Gen = general environmental protection authority. HW = hazardous waste authority. GW = ground water protection authority. Req = required by statute or regulation. Pol. = state practice; dash = no figure available.

May 11, 1995.

HON. ROBERT C. SMITH
Chairman, Subcommittee on Superfund, Waste Control and Risk Assessment,
Environment and Public Works Committee, U.S. Senate
Washington, DC

DEAR CHAIRMAN SMITH: We are writing to express our deep concern about your handling of the Superfund Reauthorization process. We were alarmed to learn last week that your Subcommittee plans to hold just one more hearing before it begins completely overhauling the Federal Superfund law. Although your Subcommittee will have held a total of seven hearings in nine weeks on the Superfund Reauthorization, only four of the more than 45 witnesses who participated in these hearings will have been citizens from Superfund communities.

We are angered and disappointed that your Subcommittee will now begin drafting monumental changes to Superfund without having had the benefit of hearing from more of the people whose lives are *most* directly affected by this program—through the denigration of their health, death of family and friends, the loss of their property values, and the constant threat to their safety. The thousands of residents living near Superfund sites, like those signing this letter, are determined to participate in the debate to ensure that our health and safety are protected under the new law.

Toward that end, we respectfully request that you schedule a Subcommittee hearing to provide the citizens who live, work and raise their families next to and on these Superfund sites, an opportunity to testify before you begin drafting reauthorization legislation.

In addition, this letter outlines those general principles which we support: (1) development of a health grants and assessment program; (2) development of meaningful public participation provisions; (3) maintaining the site specific polluter pays liability scheme; (4) ensuring the selection of safe, effective and efficient remedies which protect *all* of us living near these sites and the environment; and (5) ensuring that State delegation of the program only occur under the judicious oversight of EPA, only at sites where a State is not a PRP and in States having the full authority and funding to implement the program. State Delegation can not be allowed to further delay cleanup of toxics in our communities—we have waited long enough.

1. Health Grants and Assessment Program

Superfund, sections 104(i)(1) (D) and (E) require the Agency for Toxic Substances and Disease Registry (ATSDR) to "provide medical care and testing to exposed individuals" in cases of "public health emergencies caused or believed to be caused by exposure to toxic substances" and authorizes ATSDR to admit individuals to hospitals or other facilities and services operated or provided by the Public Health Service. Despite this mandate, ATSDR has never provided such aid to individuals at Superfund sites.

After thirteen years and billions of dollars spent on litigation costs and the treatment of contaminated soil, virtually nothing has been spent for the medical treatment of contaminated people. Therefore, we ask that $50 million/year be authorized to fund health "clinics" in Superfund communities. Please note that the use of the term "clinic" is used rather loosely. The actual design of such clinics must be site-specific and tailored to meet the needs of a particular community. In many cases, "clinics" could be operated out of existing clinics, hospitals, or medical centers. In other communities, a facility may actually need to be built to house a "clinic".

These "clinics" would perform four important functions: (1) to serve as a location for impacted populations to get specific diagnoses for health problems potentially associated with local toxic exposures; (2) where exposures are identified, to provide citizens from affected communities access to facilities for continuous and consistent environmental health diagnosis throughout the lifetime of an exposed individual; (3) to serve as an archive to house the clinical data on patients with the types of health problems potentially associated with the toxic exposures; and (4) to provide hands-on training of physicians in environmental medicine.

2. Public Participation

Superfund's current public participation provisions are seriously flawed. Those of us living next door to these sites need to be given the opportunity and the tools to get involved from beginning to end—starting with EPA's Hazardous Ranking System investigation until a cleanup is fully implemented. In cases where the remedy will require on-going oversight and monitoring, we need to be kept apprised of any problems and participate in any design or other remedial changes.

To address these problems, we support (1) creating an enforceable right to participate at all critical stages in the site investigation, remediation, and oversight and maintenance phases of a Superfund cleanup; (2) reforming the Technical Assistance

Grant (TAG) program to allow groups to receive grants during the HRS and making the application and grant administration process more user friendly; (3) creating citizen-run organizations in each state to provide information to communities about toxics in their communities and the Superfund program; and (4) authorization of so-called "Community Working Groups", but only where such groups include a majority of the local community living in the zone of highest potential exposure.

3. Maintaining the Polluter Pays Principle

Citizens who live in affected communities are nearly unanimous on the retention of retroactive liability and the site-specific polluter pays principle. We wholeheartedly reject any "public works" type of program that drops retroactive liability and depends chiefly on taxes for many reasons. Chief among our concerns are: such a program:

(1) will not generate sufficient funds to maintain the current level of cleanup and certainly not have sufficient funds to expand and accelerate cleanups. It is also important to note here that we absolutely reject as nothing short of outrageous, any attempt to reduce overall program costs by reducing the number and level of cleanups through manipulation of the risk assessment process.
(2) exacerbates environmental injustice issues as communities will be forced to compete for a limited "pool of money";
(3) discourages voluntary cleanups;
(4) shifts more of the burden onto the American taxpayers because it calls for an increase of the allocation from the general Federal revenues, and an increase in the share paid by States; and
(5) will not reduce litigation because it increases unfairness. Newer industries will be picking up the tab for older industries. Single-party sites would pay for multiparty sites and small businesses would be taxed on the basis of their incomes instead of their contribution to pollution.

In general, we support the liability reforms contained in S. 1834, introduced during the 103d Congress. We think these reforms will significantly speed up cleanup efforts while retaining the important incentives of retroactive liability.

4. Ensuring Safe, Effective and Efficient Remedies, Protective of All People Living Near Superfund Sites and the Environment

Remedy selection and cleanup standards are at the heart of the Superfund process and must be driven by concern for the protection of human health, present and future. Because huge data gaps exist in our knowledge of the effects of chemicals and in what concentrations, we generally oppose the use of risk assessment models to determine cleanup levels. Although we were supportive of provisions considered last Congress in S. 1834 which limited the extent to which risk assessments could be manipulated by standardizing certain assumptions and establishing one risk level instead of a range, we were and continue to strenuously oppose several key cleanup provisions in S. 1834.

In particular, we are adamantly opposed to the reliance on land use to determine the level of cleanup at a Superfund site. Such reliance limits the future of a community by designating an area as industrial for perpetuity. It creates areas that will never be clean for other uses thereby establishing "sacrifice zones" throughout the country. And it institutionalizes a double standard of living, one for those in clearly residential areas and a lesser standard for Communities of Color and the poor who live next to industrial areas. We simply should not be institutionalizing an already disproportionate level of exposure for these communities. We seem to have forgotten that it was land use and its vulnerabilities to local political and other pressures that got us into Superfund in the first place.

In addition, we opposed provisions relating to "hot spots" and use of the "90th exposure percentile".

5. Ensuring Sound State Delegations

Citizens have extreme apprehension about State delegation issues. In general, we feel that if States had carried out their responsibilities to provide all citizens with equal protection before the law with integrity and commitment, there would be few, if any Superfunds. We therefore advocate extreme caution in the delegation of authority to States, and judicious oversight by EPA in such cases.

If you or your staff are interested in speaking with any of us to discuss these issues in more detail, please do not hesitate to contact us. Our addresses and phone

numbers are available by contacting Penny Newman of the Communities at Risk Network.

Sincerely,

Penny Newman, Communities at Risk Network; Karen Anderson, Witherspoon S.F. Site, Knoxville, TN; Richard Banford, Louisiana Coalition for Tax Justice, Baton Rouge, LA; Clara Baudoin, Cankton Cleaners of Land, Air & Water, Cankton, LA; Margo Blackwell, People Against the Incinerator, Bloomington, IN; Frank Bonifay, Bluff Swamp Wildlife Refuge, Prairieville, LA; Chris Borello, President, Concerned Citizens of Lake Twp., Excess S.F. Site, Uniontown, OH; Steve Brittle, President, Don't Waste AZ, Inc., Motorola S.F. Site, Phoenix, AZ; Faye Bush, Newtown Florist Club, Gainsville, GA; Ida Johnson Butler, Justice for All, Newsome/Reichold S.F. Site, Columbia, MS; Joe Campbell, Prairie Island Environmental Protection Committee, Welch, MN; Jenny Carter, VT PIRG, Pine St. Barge Canal S.F. Site, Burlington, VT; Arnold Cohen, Ironbound Committee Against Toxic Waste, Newark, NJ; Will Collette, Citizens Coal, Council, Washington, DC; Rev. R.T. Conley, New Waverly Baptist Church, RSR S.F. Site, Dallas, TX; Helen Cusie, H&H Enterprise Medco I&II, Nice Avenue, Dump S.F. Sites, Gary, IN; Mark Donham, Reg. Association of Concerned Environmentalists, Ill; Mary Ellender, People United to Restore the Environment, Sulphur, LA; Cyndy de Bruler, Columbia River United, White Salmon, WA/Hood River, OR; Gregory de Bruler, Northwest Radiation Health Alliance, Portland, OR; Vlema Dunn, Gateway Neighborhood Coal, Inc., Motorola S.F. Site, Phoenix, AZ; Peggy Franklin, Concerned Citizens of Calcasieu Parish, Sulphur, LA; Tom Goldtooth, Indigenous Environmental Network, Bemidji, MN; Lori Goodman, Dine Citizens Against Ruining the Environment, Durango, CO; Flo Gossom, Save Our Homes and Lands, Lafayette, LA; Guy Hanks, Vermilion Association to Protect the Environment, Kaplan, LA; Cathy Hinds, Military Toxics Project, Sabattus, ME; Cindy Hoopes, T.H. Ag. & Nutrition S.F. Site, Fresno, CA; Rose Jackson, Oakville Community Action Group, Belle Chase, LA; Sue Jackson, STOP, Union City, TN; Linda Price-King, Dir., Environmental Health Network, Chesapeake, VA; John Lamb, The Minnesota Project, St. Paul, MN; Kathy Lanier, TCE Superfund Site, Tucson, AZ; Peter Montaque, Environmental Research Foundation, Annapolis, MD; Brenda J. Moore, New Start, RSR S.F. Site, West Dallas, TX; Janice Morrissey, Oakridge Superfund Site, Oakridge, TN; Mary Lee Orr, Louisiana Environmental Action Network, Baton Rouge, LA; Dunia Ponce, Home Owners Group, Delamo Pits, Montrose S.F. Sites, Torrence, CA; Jesus Portillo, TCE Superfund Site, Tucson, AZ; Carol Savoy, Concerned Citizens of Cameron, Sweetlake, LA; Patty Thayer, People for Alternatives to Toxics, PE&G S.F. Site, Marin, CA; Bill Redding, Sierra Club Mississippi River Basin Ecoregion, Madison, WI; Sandra Reid, Oakridge Health Liaison, Oakridge S.F. Site, Oakridge, TN; Joad Robinett, Concerned Citizens Against Toxic Waste, NEC S.F. Site, Dayhoit, KY; Florence Robinson, Stop Toxins and Other Pollution, Baton Rouge, LA; Lenny Siegel, Pacific Studies Center, Moffett Fields Superfund Site, MT. View, CA; Larry Smith, Mid-South Peace and Justice Center, Memphis, TN; Ted Smith, ID Citizens Net & Silicone Vall. Tox. Coal, IBM S.F. Site, Boise, ID; Juanita Stewart, North Baton Rouge Environmental Association, Baton Rouge, LA; Janice Stokes, President, Citizens for Better Health, Oakridge S.F. Site, Oakridge, TN; Beatrice Taggart, Chairman, COPE, Baird & McGuire S.F. Site, Holbrook, MA; Jeannette Tate, Citizens for Clean Environment, Shreveport, LA; Marion Trieste, Hazard Waste Coal., Niagara Mohawk S.F. Site, Saratoga Springs, NY; Mary Tutwiler, War on Waste, New Iberia, LA; Belinda West, Dunridge, TN; Corinne Whitehead, Coalition for Health Concern, Benton, KY; Margaret Williams, Citizens Against a Toxic Environment, Pensacola, FL; Larry Wilson, Director, Highlander Research & Education Center, New Market, TN; Sheila & Larry Wilson, Yellow Creek Concerned Citizens, Middlesboro, KY; Margie Welch, People Opposing Poll, Stouffer-Azko, Redwing, S.F. Sites, Mobile, AL; Judge Dan Woodward, PALLS, Madisonville, KY; Walter Wright, Petro Processors Superfund Site, Alsen, LA; Chuck and Sandy Yarborough, Mess, McClellan AFB S.F. Site, Sacramento, CA; Mark Zqicker, NW Louisiana Env. Coal., Benton, LA.

cc: Members of the U.S. Senate Committee on Environment and Public Works.

JEANETTE TATE,
8510 MILICENT WAY,
Shreveport, LA, May 31, 1995.

HON. JAMES INHOFE
U.S. Senate, Russell Office Building, Room 453,
Washington, DC

DEAR SENATOR INHOFE: I am writing to request a written apology to the citizens of Bossier City, Louisiana for your recent mischaracterizations during a May 4, 1995, Superfund Subcommittee hearing regarding the Oxy-U.S.A. Old Citgo Refinery Site in Bossier City, Louisiana. Your characterizations of the Oxy site were so completely inaccurate, I can only think that either you failed to obtain even the most basic facts about this site prior to making your public remarks or you simply chose to ignore the truth.

The Oxy hazardous waste site consumes approximately 215 acres of Bossier City. Operated as a home heating and fuels oil refinery since 1923, the site was closed and cleared for development in the 1960's. Nothing in any public records indicates that the site was properly cleaned up prior to redevelopment.

EPA has documented extremely high levels of heavy metals, such as 11,800 parts per million lead at an apartment complex—a concentration well over 1,000 times the background level and 6,500 parts per million higher than the EPA action level. Other chemicals which have been confirmed on the refinery site include benzene, vinyl chloride, acetone, chloromethane, toluene, ethylbenzene and zylene. Despite the presence of these chemicals, some 4,000 people currently live, work, and raise families *on* the old refinery site. Numerous businesses including motels and restaurants, hundreds of homes and apartments and a church with a preschool are also located on the site.

During the question and answer portion of the hearing, you used the Oxy site as a case study in support of state delegation of the Federal Superfund program. In criticizing the U.S. Environmental Protection Agency for its alleged slow down of the cleanup, you claimed that interested parties at the site, including the major PRP, Oklahoma-based, Oxy-USA, citizens living on the site, environmental groups and State environmental officials all agreed on a cleanup course but that the Environmental Protection Agency was responsible for holding up action at the site.

As a former resident at this site, let me assure you nothing could be further from the truth. The citizens living in my community welcome EPA's involvement at this site and as a matter of fact, formerly requested EPA to conduct a preliminary assessment of the site in 1990, pursuant to CERCLA, section 105(D). (See attached letter dated December 10, 1990). This request was made after over a 2-year period of inaction at the site by State officials and the eventual evacuation of almost 50 apartments.

Since filing the request, EPA has indeed conducted a preliminary assessment of the site and has issued a proposed hazardous ranking of "50" on the Federal Hazardous Ranking System. As I am sure you are aware, to be included on the Superfund list, a site must score at least a "28.5", well below the level of risk posed by the Oxy-site. (NPL Proposed Rule 18 Update, Old Citgo Refinery (Bossier City) HRS Documentation Record Package, NPL-U18-2-7-R6.). We feel certain that EPA will finally list this site on the NPL.

In addition to our request, you should also be aware that the Secretary of the Louisiana Department of Environmental Quality also formerly requested EPA to assert its jurisdiction over the site in January of this year, citing "severe budget cuts" for their inability to "keep this site cleanup in motion." (See attached letter dated January 5, 1995 from Mr. William Kucharski, Secretary, LDEQ to Dr. Allyn Davis, EPA.)

The citizens living on this site do not share your view that the Superfund program should be delegated to the States, at least not in Louisiana and certainly not at the Oxy-site. If you have any questions regarding this site, please do not hesitate to contact me at your convenience.

Sincerely,

JEANETTE TATE, *President,*
Concerned Citizens for a Clean Environment.

cc: Members of U.S. Senate Environment and Public Works Committee; Members of the Oklahoma and Louisiana Congressional Delegations

JEANETTE TATE,
215 SAND BEACH BLVD.,
Shreveport, LA, December 10, 1990.

Regional Administrator
U.S. Environmental Protection Agency
Region VI
1445 Ross Avenue
12th Floor, Suite 1200
Dallas, TX

DEAR SIR: Under the authority of CERCLA Section 105(D), as amended, I, Jeanette Tate, President of Concerned Citizens for a Clean Environment, hereby request that Region VI of the U.S. Environmental Protection Agency conduct a preliminary assessment of suspected release of hazardous substances, pollutants, or contaminants at the Bossier city Oxy refinery site, which was formerly operated by Citgo Refinery. This site is located on at least 214 acres in Bossier City, LA.

This refinery was closed and the site was cleared for development in the 1960's. Numerous businesses including motels, restaurants, a church and hundreds of homes and apartments are located on top of the old refinery. Today more than 4,000 people live on the old refinery site.

High levels of heavy metals, such as 7,000 parts per million lead, were found in areas where apartments now stand. Other chemicals which have been confirmed on the refinery site include benzene, vinyl chloride, acetone, chloromethane, toluene, ethylbenzene and zylene.

Photographs, site maps and old soil borings indicate that waste pits, storage tanks and loading areas were found throughout the site. Almost 50 apartments were evacuated in January 1990 because of complaints about gas or something like lighter fluid in the apartments. Residents of the Marriott have similarly complained about gas fumes. The Marriott was apparently constructed on top of an old bayou that was used as a waste sludge pit while the refinery was in operation.

In light of the information presented above, especially the recent tests by Oxy Chemical which reveal that acetone levels of 168 parts per million, methane at 146,406 parts per million, and benzene 0.42 parts per million were found in bore holes next to two of the apartments, I am requesting a preliminary assessment be performed by EPA.

Several other industrial facilities were also operated on land adjacent to the old Oxy site. These facilities used waste sludge pits that are visible on photographs and site maps. Two of the facilities were located on the north side of the refinery site. Today, part of this land is a baseball park and a parking lot for the Bossier Municipal Auditorium.

Two or more industrial facilities were located just west of the refinery site. Today these areas are the site of the interstate highway, apartments and several restaurants, motels and other businesses.

On the east side of the old refinery site, several tanks and pits were operated in an area which is now occupied by homes and streets.

There is nothing in any of the public records to indicate that any of these former industrial sites were properly cleaned up. Since the entire area covers almost 250 areas of land in the middle of Bossier City, I would appreciate you giving this matter prompt consideration.

Truly yours,

JEANETTE TATE.

STATE OF LOUISIANA,
DEPARTMENT OF ENVIRONMENTAL QUALITY,
January 9, 1995.

Dr. Allyn Davis
U.S. Environmental Protection Agency
1445 Ross Avenue
Dallas, TX

RE: Old Citgo Refinery Site, Bossier City, Louisiana

DEAR AL: The Department signed an agreement with Oxy, USA in 1991 to accomplish an extensive, remedial investigation on this site. All field work was completed by August of this year and we are now working with OXY's consultants on editing the final reports. My staff witnessed all sampling events and obtained split samples from more than 13 percent of the total specimens collected. All samples were collected, shipped and analyzed in accordance with EPA CLP guidance. The laboratory

data was validated by OXY's contractor and audited by our contractor. The results indicate localized areas of contamination which must be addressed.

With the acceptance of the final reports, DEQ's legal agreement with OXY comes to a close. Severe budget cuts have deeply affected the staffing level and work load of the division charged with the management of this site. Until legislative changes are made to allow this division to re-establish adequate staff levels, we will not be able to move forward on this site.

In order to keep this site cleanup in motion, the Department is formally requesting the United States Environmental Protection Agency address this site and their jurisdiction. To ensure that there is no costly time consuming duplication of effort, the Department offers its assistance in assessing and interpreting the data from our recently completed site investigation.

If you have any questions please do not hesitate to contact me.

Very truly yours,

WILLIAM A. KUCHARSKI, *Secretary.*

Mr. OXLEY. Thank you. Our next witness is Mr. Jim Kirk, CEO for OHM Remediation Services Corporation.

STATEMENT OF JAMES L. KIRK

Mr. KIRK. Thank you, Mr. Chairman, and members of the subcommittee. I appreciate the opportunity to testify today and present my views. My name is Jim Kirk. I'm the chairman, president, and CEO of OHM Corporation, the largest hazardous waste remediation firm in the United States.

I have submitted my full testimony to the subcommittee. However, in the interest of time I will be presenting an abbreviated version of this testimony today.

Since I founded the company 26 years ago, our business has focused on on-site cleanup, not studies. OHM has more than 3,100 employees and 30 offices nationwide. We have the largest in-house capabilities of delivering remediation services in the United States, and have completed to date over 30,000 remediation projects since 1969.

Thus, we are in a unique position to testify on the needs for Federal legislation which encourages and expedites voluntary cleanups. I think we can all agree, however, that over the past 20 years, far too many of our environmental dollars have been spent on overhead and studies and not enough in the actual cleanup.

Mr. Chairman, you are to be congratulated for your early and diligent championing of legislative reforms that encourage efficient, voluntary cleanup programs. You recognize that this area of the law, which, if appropriately crafted, can present a win-win opportunity for the economy and the environment.

Your leadership in the effort to limit studies and to the essentials to focus on the few available environmental dollars for true site cleanup, where the new emphasis on the voluntary programs is definitely in the best interests of this Nation. According to EPA, there are well over 100,000 remedial sites that could benefit from an aggressive, voluntary cleanup program.

The benefits of voluntary cleanup are important. Voluntary cleanups enhance the property value, create jobs, and build a solid tax base. Voluntary cleanup programs also focus primarily on actual remediation, not on extraneous and time-consuming studies. Also voluntary cleanup projects teach new skills to the local citizenry, who are hired and trained during the actual remediation process.

As you know, voluntary cleanup legislation is the key to achieving progress in the vital areas of brownfield restoration. We have seen firsthand numerous well-intentioned industries voluntarily set out to solve the environmental problems on their sites. Much to their horror, they realize that the regulations have tied their hands so tightly that are allowed to proceed only with inferior remedies at best, and at worst they can't take any action at all.

Although approximately 20 States have adopted voluntary cleanup programs, there needs to be Federal legislation to remove the roadblocks in States' voluntary cleanup programs. These roadblocks are caused by current mandatory environmental requirements, which are overly stringent and complex.

The Resource Conservation Recovery Act is at the heart of this problem. Here are three reasons. RCRA encourages prevention as opposed to cleanup, with most of these requirements aimed at newly generated waste, not historical remedial waste. RCRA's land disposal restrictions are inappropriate for historical remedial waste because it creates a strong incentive for landowners to leave remedial waste in place and untreated in order to avoid the costly RCRA requirements. This does not protect the health and safety of the surrounding community.

Two, RCRA permitting requirements and its facility-wide corrective action provisions are grossly inappropriate for remedial projects. RCRA stifles the use of innovative technologies. RCRA standards are inflexible and do not accommodate the evolution of innovative treatment technologies which would provide more cost-effective, environmentally sound solutions to contaminated media problems.

Given the lack of incentives for use of innovative environmental technologies, most of which have been developed in the United States and still may follow the path to the foreign shores as the U.S. microchip industry did in the 1980's, we cannot allow these technologies of the future to be developed and sold abroad because our regulations are too rigid to allow commercialization within the United States.

Based on many years of proven field experience, OHM recommends the following concepts to be incorporated in much-needed Federal legislation and voluntary cleanup programs. We need enforceable remedial management plans, not RCRA permitting. All sites, both private sector and Federal facilities, should be eligible for the voluntary cleanup programs, except Superfund National Priority List sites, which have already received records of decision.

RCRA corrective actions should not be triggered unless the facility is already subject to these provisions. Land disposal restrictions were meant to apply to untreated industrial waste streams and should not apply to large volumes of soil and other contaminated media and cleanup sites.

We need cleanup standards, not land disposal restrictions. In recognition of the inherent difficulties in treating contaminated areas and the unique and individual nature of each site, high concentrations or hot spots should be treated and permanently brought to levels that protect human health and the environment as long as this treatment is economical and technologically feasible.

State EPA's should be authorized to implement voluntary corrective action. Whichever State entity takes the lead should not be second-guessed by the other agency.

The remedial provisions of the risk assessment and the cost benefits of Act 1995 H.R. 1022 should not apply to voluntary cleanups. The Federal voluntary cleanup program should be a part of a new and improved Superfund, both Superfund and voluntary cleanups are remedial in nature. RCRA is not.

I would also like to take an opportunity to briefly offer OHM's views on the retention of EPA's authority in implementing the Superfund removal program. OHM has served for many years as a prime contractor on the removal program. EPA removal program is one of the most successful, well-run, is mitigating environmental damage and is providing the American people with an excellent return on their tax dollars that are expended. When Superfund is reauthorized, OHM strongly urges Congress to retain and expand the current EPA managed removal program.

With that, I'd be happy to arrange for you or any of your staff to actually visit a cleanup site and to see how these problems are being solved cost-effectively today. Mr. Chairman, I look forward to working with you and the subcommittee on these matters in the future, and I wish to thank the subcommittee again for the time.

[The prepared statement of James L. Kirk follows:]

PREPARED STATEMENT OF JAMES L. KIRK, CHAIRMAN, PRESIDENT, AND CHIEF EXECUTIVE OFFICER, OHM CORPORATION

INTRODUCTION

Good Morning Mr. Chairman and Members of the Subcommittee. I appreciate the opportunity to testify today and present our views. My name is Jim Kirk and I am Chairman, President, and CEO of OHM Corporation, the largest hazardous waste remediation firm in the United States with 1995 revenues in excess of a half of a billion dollars. I am accompanied today by Bob Blackwell and Jan Power who will assist with technical questions and issues.

Since I founded the company 26 years ago, our business has focused on on-site cleanup—not studies. OHM provides comprehensive on-site treatment of hazardous waste and hazardous and toxic substances to primarily chemical, petroleum, and transportation industries, as well as DOD, DOE, and EPA. Our backlog of projects with the Department of Defense is more than $1 billion dollars.

OHM has more than 3, 1 00 employees and 3 0 offices nationwide. We have the largest in-house capability for delivering remediation services in the U.S. and have completed over 30,000 remediation projects since 1969.

Thus, we are in a unique position to testify on the need for federal legislation which encourages and expedites voluntary cleanups. I think we all can agree, however, that over the past 20 years, far too many of our environmental dollars have been spent on overhead and studies and not enough on actual site cleanup.

Mr. Chairman, you are to be commended for your early and diligent championing of legislative reforms that encourage effective voluntary cleanup programs. You recognize that this is an area of the law which, if appropriately crafted, can present a "win-win" opportunity for the economy and the environment.

Your leadership in the effort to limit studies to the essentials and to focus the few available environmental dollars on true site cleanup, with a new emphasis on voluntary cleanup programs, is definitely in the nation's interest. According to EPA, there are well over 100,000 remedial sites that could benefit from an aggressive voluntary cleanup program.

The benefits of voluntary cleanup are important...

- Voluntary cleanup enhances property value, creates jobs, and builds a solid tax base.
- Voluntary cleanup programs focus primarily on the actual remediation... not on extraneous and time-consuming studies. And...

- Voluntary cleanup projects teach new skills to local citizens who are hired and trained during the remediation process.

As you know, voluntary cleanup legislation is the key to achieving progress in the vital area of "brownfield" restoration.

We have seen, firsthand, numerous well-intentioned industries voluntarily set out to solve the environmental problems on their sites. Much to their horror, they realize that regulations have tied their hands so tightly they are allowed to proceed only with inferior remedies at best... and at worst, they cannot take any action at all.

Although approximately 20 states have adopted voluntary cleanup programs, there needs to be federal legislation to remove the roadblocks in state voluntary cleanup programs. These roadblocks are caused by current mandatory federal requirements which are overly stringent and complex.

RCRA AND SUPERFUND PROBLEMS

(RCRA)

The Resource Conservation and Recovery Act is at the heart of the problem. Here are three reasons.

1. RCRA encourages prevention as opposed to cleanup—with most of its requirements aimed at newly generated waste, not historic remedial waste. In particular, RCRA's Land Disposal Restrictions encourage many industries to reduce the amount of waste they generate. Which is good. But RCRA's Land Disposal Restrictions are inappropriate for historic remedial waste because it creates a strong incentive for landowners to leave remedial waste in place and untreated in order to avoid costly RCRA requirements. This does not protect the health and safety of surrounding communities.

2. RCRA's permitting requirements and its facility-wide corrective action provisions are grossly inappropriate for "one-time, one-shot" remediation projects. And...

3. RCRA stifles the use of innovative treatment technologies. RCRA's standards are inflexible and do not accommodate the evolution of innovative treatment technologies which would provide cost-effective and environmentally sound solutions to contaminated media problems. We have hands-on experience with these technologies and know they can produce solutions which in many cases are less expensive than cap and contain remedies which do not provide permanent solutions to hazardous waste problems. Given the lack of incentives for use, innovative environmental technologies, most of which have been developed in the U.S., may follow the path to foreign shores that the U.S. microchip industry did in the 1980s. We cannot allow home-grown technologies of the future to be developed and sold abroad because our regulations are too rigid to allow commercialization within the U.S.

(Superfund)

In order to gain exemptions from burdensome RCRA permit requirements, property owners must comply with overly stringent Land Disposal Restrictions at Superfund sites.

At brownfield sites, there are not RCRA exemptions available, so the negative synergy between Superfund and RCRA is more pronounced. Consequently, developers, investors, and lenders are extremely reluctant to pursue projects on most brownfield sites.

CONCLUSIONS AND RECOMMENDATIONS

Based on our many years of proven field experience, OHM recommends the following concepts be incorporated in the much-needed federal legislation on voluntary cleanup.

1. We need enforceable Remedial Management *Plans*, not RCRA *permits*.

2. All sites, both private sector and federal facilities, should be eligible for the voluntary cleanup program... except Superfund National Priority List sites for which Records of Decision have been issued.

3. RCRA corrective actions should not be triggered unless the facility is already subject to these provisions.

4. Land Disposal Restrictions which were meant to apply to untreated industrial waste streams should not be applied to large volumes of soil and other contaminated media.

5 .We need cleanup standards, not Land Disposal Restrictions, that recognize the inherent difficulties in treating contaminated areas and the unique individual nature of each site. High concentrations (or "hot spots") should be treated and permanently brought to levels that protect human health and the environment so long as treatment is economically and technologically feasible.

6. States and EPA should be authorized to implement voluntary corrective actions. Whichever governmental entity takes the lead, should not be second guessed by the other.

7. The remediation provisions of the Risk Assessment and Cost-Benefit Act of 1995 (H.R. 1022) should not apply to voluntary cleanups.

8. The federal voluntary cleanup program could be a part of a new and improved Superfund because both Superfund and voluntary cleanups are remedial in nature and RCRA is not.

I would also like to take this opportunity to briefly offer OHM's views on retention of EPA authority in implementing the Superfund removal program.

OHM has served for many years as a prime contractor on the removal program. The EPA removal program is successful, well run, is mitigating environmental damage, and is providing the American people with an excellent return for the tax dollars expended.

When Superfund is reauthorized, OHM strongly urges Congress to retain and expand the current EPA-managed removal program.

I will be happy to arrange for you and your staffs to visit cleanup sites and see how these problems are being solved cost-effectively.

Mr. Chairman, I look forward to working closely with you and your staff on these matters.

I wish to thank the Committee again for the privilege of testifying on this important issue today, and I will be glad to answer your questions.

Mr. OXLEY. Thank you for your appearance today.

Next witness is Lynn Yerges Buhl, representing the AAMA, American Automobile Manufacturers Association.

STATEMENT OF LYNN Y. BUHL

Ms. BUHL. Perfect. Good afternoon. Thank you for the opportunity. Let me clarify that I am the environmental lawyer for Chrysler Corporation and this testimony focuses on Chrysler experiences because they are timely and relevant to the issue of urban redevelopment. However, I have conferred with Ford and General Motors individuals and they concur in our conclusions.

We in the auto industry have seen firsthand how the Superfund program can entangle a redevelopment project. Although many are quick to point to the statute's liability standards as a tremendous disincentive to urban redevelopment, I'd like to stress today that we see the remedy selection process as an equally important problem.

Debates over how or to what extent contamination on previously used urban properties must be addressed discourage property owners and developers alike, regardless of who is liable. A redevelopment project has three major hurdles to overcome and all of them are impacted by Superfund: cost, timing, and uncertainty.

We think all of these can be positively impacted by an improved remedy selection process. The goal of the Superfund program should be to create a framework for the evaluation and cleanup of sites that include criteria anyone can apply to establish acceptable cleanup levels based on the current or future use of the property.

This would provide a consistent and cost-effective approach to site cleanup, whether the property is on the NPL or not, and would allow implementation of a remedy to proceed with a greater level of certainty. This would help prospective redevelopers quite a lot.

More specifically, in our view the logical approach to cost-effective cleanup actions is a process that begins with the realistic assessment of current or future land use. The subsequent steps in the process would be to develop a realistic estimate of the risk posed by the site based on reasonable exposure scenarios, identify any

unacceptable risks, and design a remedy that addresses those specific risks and the exposures giving rise to them.

The remedy should address those actual risks identified under a specific land use. In our experience, U.S. EPA and many States have typically insisted that a cleanup be to background levels or to very stringent levels based on a presumption of unrestricted residential use. The Superfund statute's preferences for treatment and permanence have been used to justify this position. These preferences have created a serious problem for redevelopment of property which has had any history of industrial use during the last century.

Many companies and property owners have simply mothballed over facilities by removing equipment and waste, boarding up windows and just letting them sit. This is often the most economically sensible course when faced with a multi-million dollar cleanup that far exceeds the value of the property.

For those of us who have plunged ahead with building demolition and site remediation, the tension between the regulators' approach and ours have created tremendous delays and uncertainty. Months, if not years, pass while we look for alternatives to excessively stringent remedies, and regulators refuse to accept our less than pristine solutions.

In the meantime, potential purchasers who have a development plan, many of which are dependent on a given frame, walk away to a greenfield property and the lenders sprint in another direction.

In order to illustrate how this system would be an improvement, I'd like to contrast two experiences Chrysler has had in property redevelopment. First, the Jefferson North Assembly Plant construction. In 1986 Chrysler reached an agreement with the city of Detroit and the State of Michigan, under which the parties would cooperate in the construction of a billion dollar automotive assembly plant.

The agreement involved the city condemning hundreds of acres of property, performing any necessary remediation and selling 283 acres to Chrysler for our construction of a huge state-of-the-art assembly plant that today employs 4,300 people. The types of land use part of the construction were varied, some residential, some small business, the corner gas station, a cleaner. The major problems were nothing exotic, mostly petroleum hydrocarbons and also heavy metals commonly associated with historical fill materials that are widespread along the Detroit River.

Prior to actual construction, Chrysler and the city met with the Michigan Department of Natural Resources to discuss what level of cleanup was required for property that was to be used for industrial purposes. We presented a very specific plan for where a large building would be placed on the property and the type of security measures and the exposures we anticipated, and the DNR's opening position was clean it up to background.

Negotiations continued for many months, and in fact the protracted disagreement, which was already becoming a cost issue, gave rise to a timing problem. If Chrysler did not have title to the property and be in a position to break ground by mid-1989, its introduction of the company's much-promoted Jeep Grand Cherokee would be delayed. In our industry that can have very, very costly

implications. It was critical to our position in a competitive marketplace that the production remain on schedule.

With considerable pressure from the highest levels at the State, in the city, and within Chrysler, the three parties finally agreed that higher levels of contaminants could remain on site under a 3-foot clay cap, with a French drain around the perimeter of the property. No settlement document was signed, and we relied on 3 letters that were simply an exchange between the 3 parties.

Our conclusions are that the remedy originally advocated by government regulators was excessive from a health protection standpoint and from a cost standpoint. No extra value would have been gained by spending the incremental dollars on cleanup to background levels.

In terms of timing, regulators need to be educated in the importance of timing. This project nearly failed because controversy over cleanup standards threatened project milestones that were necessary to product launch. We need to have more of a can-do attitude.

In terms of uncertainty, Chrysler proceeded absent finality in the environmental negotiations because of the huge investment that had been made and the critical timing. The 3 letters constituted our agreement. We are still at risk of an enforcement action by the Federal Government should they choose.

Let me just re-emphasize this last point. The reluctance of U.S. EPA or its State counterparts to issue a statement indicating all work is complete and liability extinguished has discouraged property owners and scared developers and other potential buyers away. Steps have been taken by U.S. EPA and a number of States to offer assurances to prospective purchasers that they won't be held liable for any pre-existing contamination.

I guess my point today is, don't forget the seller. Make sure you give us an incentive to begin and complete a remediation. In contrast, we are just ready to embark on redevelopment of some property and the placement of a new engine plant in the city of Detroit. We are anticipating a much smoother course with Michigan's new amended statute that focuses on establishment of land use. They will give us the option of performing a site-specific risk assessment or to accept cleanup levels that they have developed based on generic land use categories.

We are also pleased that their legislation focuses on eliminating unacceptable risks rather than cleaning up to background in all cases.

Mr. OXLEY. Could you summarize, Ms. Buhl?

Ms. BUHL. Yes, I will.

So what can be done to the Federal statute to remove inconsistencies or impediments to redevelopment projects? Clearly we would recommend eliminating the preferences for treatment and permanence, ensuring that realistic land use projections are the starting point for site evaluation, having Congress require of EPA to modify its risk assessment methodology so that site-specific data is employed whenever available, and requiring that cost be balanced against the benefits that are expected to be achieved by the chosen remedy.

Another change to the Federal statute that would help brownfield redevelopment is for Congress to clarify that the goal of the program is to protect human health and the environment from unacceptable risks. Satisfying a stated government goal that cleanups protect against such unreasonable risk should accord a PRP protection from demands of another level of government or other parties. Thank you.

[The prepared statement of Lynn Y. Buhl follows:]

PREPARED STATEMENT OF LYNN Y. BUHL ON BEHALF OF THE AMERICAN AUTOMOBILE MANUFACTURERS ASSOCIATION

Good afternoon, and thank you for the opportunity to testify before the Subcommittee on behalf of the American Automobile Manufacturers Association. AAMA's members are America's car companies, Chrysler, Ford and General Motors. Together we sell three out of four vehicles in the United States, and are responsible for 19 out of 20 Americans employed in vehicle manufacturing.

Let me clarify that I am an environmental attorney for Chrysler Corporation and this testimony focuses on Chrysler experiences simply because they are timely and relevant to the subject of this hearing. The other AAMA members share our views on the recommendations herein.

Two events in the last decade have caused Chrysler Corporation to focus on the very important challenge which is the subject of today's discussion: that is, redevelopment of our nation's cities. The first was an agreement reached in 1986 with the City of Detroit and the State of Michigan in which Chrysler agreed to build a brand new, world class automobile assembly plant on redeveloped property in the City of Detroit. That resulted in the construction of the Jefferson North Assembly Plant on the east side of Detroit, which currently manufactures our Jeep Grand Cherokee.

The second event was the acquisition of American Motors Corporation in 1987 which immediately resulted in excess manufacturing capacity for the combined product lines. As a result, automobile plants have been deactivated and demolished in Milwaukee, WI, Kenosha, WI, Detroit, MI, and Trenton, MI.

As a result of these two events, we have learned a lot about how the Superfund program can entangle a redevelopment project. Although many are quick to point to the statute's liability provisions as a tremendous disincentive to urban land redevelopment, I'd like to stress today that we see the remedy selection process as an equally important problem. Debates over how or to what extent contamination on previously "used" urban properties must be addressed discourage property owners and developers alike, regardless of who is liable.

In our experience, U.S. EPA and most states have typically insisted that cleanup be to background levels or to very stringent levels based on a presumption of unrestricted residential use. The Superfund statute's preferences for treatment and permanence have been used to justify this position. These preferences create a serious problem for redevelopment of property which has had any history of industrial use during the last century.

Chrysler has resisted the notion that it is prudent to spend huge amounts of money to restore such properties to background levels. It is this notion that has caused environmental protection to be perceived as incompatible with urban redevelopment. Many companies and property owners have simply "mothballed" older facilities by removing equipment and wastes, boarding up windows—and letting them sit. This is often the most economically sensible course when faced with multimillion dollar cleanup costs that far exceed the value of the property.

For those of us who *have* plunged ahead with the building demolition and site remediation, the tension between the regulators' approach and ours has created tremendous delays and uncertainty. Months, if not years pass while we look for alternatives to excessively stringent remedies and regulators refuse to accept our less-than-pristine solutions. In the meantime, potential purchasers who have a development plan—many of which are dependent on a given timeframe—walk away to a greenfield property. And financiers *sprint* in another direction. So another redevelopment possibility is lost.

A redevelopment project has three major hurdles to overcome, all of which are impacted by Superfund: *COST, TIMING, AND UNCERTAINTY*. We think all of these can be positively impacted by an improved remedy selection process. Our goal in Superfund reauthorization is to see a framework created for the evaluation and cleanup of sites that includes criteria anyone can apply, based on the current or future use of the contaminated property. That would provide a consistent and cost-

effective approach to site cleanup, whether the property is on the National Priorities List (NPL) or not, and would allow cleanup and redevelopment to proceed with a level of certainty even if the government is not able to participate or respond in a timely manner. That should help prospective redevelopers a lot. They would have more *certainty* and be able to tailor a cleanup to the specific future use of the property.

More specifically, in our view, the logical approach to cost-effective cleanup actions is a process that BEGINS WITH A REALISTIC ASSESSMENT OF CURRENT OR PROBABLE FUTURE LAND USE. The subsequent steps in the process are: (2) develop a realistic estimate of the risk posed by the site based upon reasonable exposure scenarios; (3) identify any unacceptable risks; and (4) design a remedy that addresses those exposures giving rise to the unacceptable risks. The remedy should address those actual identified risks under a specific land use. It should not have to address any and all hypothetical exposures under an array of land uses.

In order to illustrate how this system would be an improvement, I'd like to contrast two experiences Chrysler has had in property redevelopment. First, the Jefferson North Assembly Plant construction.

As I mentioned, Chrysler reached an agreement in 1986 with Detroit and the State of Michigan under which the parties would cooperate in the construction of a $1 billion automobile assembly plant. The agreement involved the City of Detroit condemning hundreds of acres of property, performing any necessary remediation and selling 283 acres to Chrysler for the construction of a huge, state-of-the-art assembly plant that today employs 4600 people.

The types of land use prior to the construction of the plant were varied: gas station, church, small machinery repair shop, residences, car wash, sheet metal fabricating company, brass foundry, scrap metal dealer, small office buildings, beauty parlor, railroad tracks, coal storage, glass fabricating and, naturally, a dry cleaner. The major problem encountered at the site was nothing exotic: total petroleum hydrocarbons. There were some areas where TPH contamination was measured at 750,000 parts per million. The City also encountered heavy metals commonly associated with historical fill materials that are widespread along the Detroit River.

Prior to actual construction, Chrysler and the City met with the Michigan Department of Natural Resources (MDNR) to discuss what level of cleanup was required for property that was to be used by Chrysler for industrial purposes. Chrysler presented a floor plan for a huge manufacturing facility with security measures at the perimeter of the property that would control access.

MDNR's opening position: Clean up to background at an estimated cost of $50 to $100 million. MDNR's position was based on the philosophy that any and all contamination should be remediated to pristine conditions. It bore no relationship to any realistic assessment of the risks to human health posed by the site.

Negotiations continued for many months and, in fact, the protracted disagreement—already a cost issue—gave rise to a timing problem. If Chrysler did not have title to the property and be in a position to break ground by mid-1989, its introduction of the vehicle, the company's much promoted Jeep Grand Cherokee, would be delayed. In our industry, product development and introduction is very carefully timed to hit a receptive market. If that market window is missed, the entire cost of the product design and the cost of new facility construction can be lost. It was critical to Chrysler's position in a competitive marketplace that production remain on schedule. With considerable pressure from the highest levels at the State, in the City and within Chrysler, the three parties agreed that higher levels of contaminants could remain on site under a three foot clay cap with a French drain around the perimeter of the property. No settlement document was signed. We relied on three "Remediation Letters".

The plant opened in January, 1992. Our conclusions from that experience are obvious:

1) *Cost*. The first remedy advocated by government regulators was excessive from a health protection standpoint and from a cost standpoint. No extra value was to be gained by spending the incremental dollars. That's the fundamental problem with the current statute—we're not getting value from the dollars invested in these more stringent remedies.

If the Jefferson North project had not been *so* major, *so* visible, *so* politically desirable, it wouldn't have happened. Think of the projects of lesser magnitude that have been abandoned because of an adamant government regulator insisting on a pristine site regardless of need and practicality.

2) *Timing*. Regulators need to be educated in the importance of timing. This project nearly failed because controversy over cleanup standards threatened project milestones that were necessary to product launch. Government and industry should

work cooperatively *toward* any project which provides much-needed jobs, instead of engaging in the "stonewalling" and "posturing" that occurs today all too frequently.

3) *Uncertainty.* Chrysler proceeded absent finality in the environmental negotiations because of the huge investment that had been made and the critical timing. Three letters constituted our agreement, but Chrysler received no protections from the State, such as a Covenant Not to Sue, contribution protection, "no further action letter", certificate of completion—or in our wildest dreams—a document indicating neither the City nor Chrysler remained liable under the statute for issues addressed in the cleanup. In reality—and this is the lawyer talking—we're still at risk of an enforcement action by U.S. EPA even though the property was remediated to state approved levels. Many companies would not have gone forward under similar circumstances.

To state the concern more broadly, the reluctance of the U.S. EPA or its state counterparts to issue a statement indicating all work is complete and liability extinguished has discouraged property owners (potential "sellers") and scared developers or other potential buyers away. It's not just the liability standard—it's the lack of finality in the cleanup process that creates unacceptable uncertainty. We believe a liable party should be able to extinguish its liability through completion of a government-approved remediation. After all, the liable property owner needs assurances from the process, too.

Let me contrast this with another Chrysler redevelopment project—this one is pending.

On April 13, 1995, Chrysler announced its plans to relocate a major engine plant operation to an under-utilized facility in the City of Detroit. In order to modify the existing building for engine production, Chrysler needs to acquire and demolish a 2 million square foot plant lying immediately adjacent. There is a tortured history to this building slated for demolition—suffice it to say that Chrysler has CERCLA liability for contamination therein as a prior owner. Building contamination has largely been addressed, so we are currently facing what are primarily demolition and soil contamination issues.

We anticipate less controversy in our negotiations with the Michigan Department of Natural Resources for two reasons: (1) We have a specific plan for future use of the property and (2) Michigan recently amended its "Superfund" statute. The stated purpose of the legislation is to "provide for appropriate response activity to *eliminate unacceptable* risks to public health, safety or welfare, or to the environment from environmental contamination at facilities within the state". The amended statute contains modifications to liability provisions. I'll not talk about those today. I want to focus your attention on its new remedy selection process which gives the property owner a choice of using clean up levels based on a site specific risk assessment or using generic cleanup levels established by the department for specific land use categories: residential, recreational, industrial, or commercial. The statute directs the MDNR quite specifically:

- The department *shall* utilize only reasonable and relevant exposure pathways in determining the adequacy of a site-specific criterion.
- The department *shall* develop cleanup criteria... based on generic human health risk assessment assumptions... the department *shall* utilize only reasonable and relevant exposure pathways in determining these assumptions.
- If a hazardous substance poses a carcinogenic risk to humans, the cleanup criteria derived for cancer risk under this section shall be the 95% upper bound on the calculated risk of 1 additional cancer above the background cancer rate per 100,000 individuals using the generic set of exposure assumptions established under subsection (3) for the appropriate category or subcategory.

The new statute allows Chrysler and other PRPs similarly situated, to tailor a cleanup to prevent the specific exposures anticipated under the use of the property—in our case, for industrial purposes. The new engine plant will have residential property on one side and commercial property on the other, but there will clearly be restricted access based on industrial usage. The new Michigan remedy selection process allows us to factor in all of that information to develop a plan to manage any residual contamination in a manner that is protective of human health and the environment.

Critical to the completion of both of these projects was and is the use of a risk-based remedy selection process that recognizes current and future property use. AAMA endorses the remedy selection approach reflected in the new Michigan statute. In our view, the statute takes an improved approach that requires protection from *unreasonable* risks, relies on science and reduces all three impediments to urban redevelopment: cost, timing and uncertainty.

So what can be done to the federal statute to remove inconsistencies or other impediments to a redevelopment project?

1) Congress needs to eliminate § 121's preferences for treatment and permanence.

2) Congress needs to ensure that realistic land use projections are the starting point for site evaluation and remedy selection.

3) Congress needs to direct EPA to modify its risk assessment methodology so that site-specific data is employed whenever available and realistic exposures are calculated.

4) Congress needs to direct EPA to revise its remedy selection process so that costs are balanced against the benefits that are expected to be achieved by the chosen remedy.

Without these revisions, PRP's can get caught between state and federal programs and be subject to enforcement by the "other" even if we're incompliance with one.

To address that problem, we'd like Congress to go one step further and clarify that the goal of the Superfund program is to protect human health and the environment from unacceptable risks posed by contaminated properties. Any cleanup conducted that achieves that goal—whether through a state program or the federal program, voluntarily or under a consent agreement, should enable a PRP to extinguish its liability under state and federal law.

At a minimum, a written settlement with either the federal or state agency should include a Covenant Not to Sue and contribution protection under both statutes—and I'll add—based on recent case law, under RCRA. Even better would be a provision in the federal statute that delineates actions that can be taken by a PRP whose completion would extinguish liability or create a rebuttable presumption that liability has been extinguished. Examples would be: (1) implementation of an approved remedial action plan, or (2) entry into a settlement document with a state or federal entity and performance thereunder.

The concept of being able to extinguish liability is important in the realm of private party cost recovery under CERCLA and under the citizen suit provision of RCRA.

Satisfying a stated government goal that cleanups protect against unreasonable risks to human health and the environment should give a PRP protection from demands of another level of government or other parties.

In summary, we are advocating a program that provides for protection of human health and the environment through actions that are designed while keeping in mind the current or future use of the property and the realistic exposures resulting from that property use. In our view, such a program would provide more flexibility and yet more certainty. That, to us, is key to fostering redevelopment of our nation's cities.

Thank you.

Mr. OXLEY. Thank you. Our final witness, Jan Linsenmeyer and Mr. Atkinson.

STATEMENT OF ROBERT ATKINSON

Mr. ATKINSON. Thank you, Mr. Chairman. I'll just make a few introductory remarks. It's a pleasure for us to be here today and given the current uncertainty over OTA's future, I hope this won't be the last time we'll have an opportunity to testify, either before this subcommittee or Congress.

As you may know, OTA was asked by three committees of the House and the Senate to conduct a study on how technological change is reshaping U.S. metropolitan areas, and in particular, U.S. cities. We found that the current revolution in information technology and telecommunications has the potential to put many central city and some inner suburban economies at risk, and as a result economic development will be much more important than it has been in the past. It is in this context that brownfield cleanup and reuse will be a key component.

About 1½ months ago, Mr. Chairman, you asked OTA to prepare a background paper on State programs for the reuse of brownfields, as well as a more comprehensive report on brownfields for delivery

in September, and we are pleased that we were able to respond to your request with this background paper that you are releasing today.

My colleague Jan Linsenmeyer, who's the principal author of the paper, will make a few remarks about State programs.

STATEMENT OF JAN LINSENMEYER

Ms. LINSENMEYER. Good afternoon. There is so much I could say about State activities on brownfields. Having grown up in Cleveland, Ohio, I was aware of brownfields before they were even given the name. I will limit myself today to a few points about brownfields generally before I move on to some specific information about what States are doing, focusing primarily on voluntary cleanup programs.

While there is much good work going on to address brownfields currently, information about the extent of the problem and the level of contamination at many of these sites is limited. There is evidence to suggest that there may be as many as 450,000 brownfield sites in the country, with varying levels of contamination, some still not having been evaluated for environmental contamination. Some cities and counties have begun to inventory their brownfield sites to better understand the extent of the problem in their borders.

There are four major challenges to brownfield cleanup and reuse. First, private parties fear liability associated with Federal and State environmental laws. The complicated and often overlapping nature of these laws creates an unclear picture of the real risk of liability. Second, assessment and cleanup costs can be high and financing is often unavailable. Third, cleanup requirements are often uncertain at brownfields, discouraging interest in these sites. And four, because of poor location there may not be demand for many of these sites, even if they are cleaned up.

The background paper we are releasing today includes significant detail on a variety of State programs to address brownfields, including State superfunds and property transfer laws, but the major points I would like to focus on are about voluntary cleanup programs because they offer some unique advantages that help overcome some of the barriers to brownfields activity.

Approximately 21 States have established voluntary cleanup programs, including 9 which passed legislation in the past year. Voluntary cleanup programs differ from other approaches in that owners or developers of a site approach the State voluntarily to work out a process by which a site can be readied for development. They are especially popular because they allow private parties to avoid some of the costs and delays associated with State superfund or other enforcement-driven programs.

In particular, voluntary cleanup programs try to address the challenges I listed earlier by providing a number of incentives. These include, (1) some programs offer liability assurances, such as a covenant not to sue from the State; (2) many allow flexibility in cleanup standards, in some cases tying cleanups more closely to future land use; (3) technical assistance may be offered to parties associated with brownfield sites; (4) financial support in the form of

grants and low interest loans for site assessment, cleanup and redevelopment are also offered.

Since many of these programs are new, there has been no formal evaluation of their effectiveness. However a number of State programs have completed cleanups and achieved reuse of brownfields in this way.

There are, however, a few issues that may require more attention as States continue to address brownfields. First, voluntary programs are popular because they offer a less confrontational and more efficient alternative to enforcement-driven State and Federal cleanup programs. However, without the enforcement provisions of these programs, it is possible that fewer voluntary cleanups will occur, placing more of the burden on State and local governments to pay for cleanup and redevelopment.

Second, some voluntary cleanup programs attempt to limit or clarify liability by offering enforcement immunity or other liability assurance. While these assurances include liability protection from State law, they do not shield parties from liability under third party lawsuits or Federal law. As a result, it is not clear that these assurances can provide the needed security to increase the level of brownfield cleanup and redevelopment.

Finally, as States continue to develop and improve voluntary programs, they make a number of discretionary decisions about cleanup. As a result, some form of agreement between the States and EPA could give these programs more credibility. Expanded use of Superfund memorandum of agreements or perhaps certification of State programs as outlined in last year's legislation are two options to address this issue.

Thank you, and I'm available for questions.

[The joint prepared statement of Jan Linsenmeyer, and Robert Atkinson follows. The OTA background paper entitled "State of the States on Brownfields: Programs for Cleanup and Reuse of Contaminated Sites" is retained in the subcommittee files.]

PREPARED STATEMENT OF JAN LINSENMEYER AND ROBERT ATKINSON, OFFICE OF TECHNOLOGY ASSESSMENT

Mr. Chairman and members, it is a pleasure to be here today. My statement focuses on programs that have been developed at the state level to address brownfields. The OTA background paper, *State of the States on Brownfields: Programs for Cleanup and Reuse of Contaminated Sites*, which we are delivering to the Subcommittee today, provides the basis for my remarks. The background paper is an interim product of a more comprehensive brownfields report that will be prepared for the Subcommittee for delivery this September 1995.

INTRODUCTION

There are many definitions in use for the term "brownfields." One that captures the most common aspects among them is the following: "brownfields consist of land and/or infrastructure that are abandoned or underutilized where expansion or redevelopment is complicated, in part, because of known or potential environmental contamination." The existence of brownfields is not a new problem in many metropolitan areas, especially older, central cities and suburbs, where much of the economy was historically based on industrial and commercial activity. Where industry has closed or moved, land and buildings are left behind, idled, or underutilized, leading to job loss and reduction in local tax revenues. As many of these areas try to reverse this decline and promote economic development, significant attention has focused on brownfields and the barriers associated with their cleanup and reuse. While more attention has been focused on brownfields in the past few years, information on the extent of the problem and the level of contamination at these sites is limited. Esti-

mates range from tens of thousands to 450,000 brownfields sites in the country. In addition, their condition may vary from zero, low, or moderate contamination to extremely hazardous conditions, while many sites have not been evaluated.

Although the exact nature and extent of the problem is difficult to assess, most sites considered brownfields are not associated with extreme levels of contamination and will never be considered for addition to the National Priority List or similar state priority lists. Since these sites do not pose a serious threat or warrant immediate federal attention, they become the responsibility of the states or municipalities where they are located. For this reason, states have taken an active role in identifying and confronting the barriers to promoting brownfield cleanup and reuse.

MAJOR ISSUES

There are a number of major issues related to brownfields cleanup and redevelopment. These include technical issues related to site assessment and cleanup, liability concerns associated with environmental contamination, financial barriers to cleanup and reuse, community concerns, and prospects for redevelopment. These issues require some attention and resolution in order to promote greater interest by developers and business in brownfield sites.

Technical Issues

The technical issues surrounding brownfields involve accurately assessing the type and extent of contamination present, and establishing cleanup standards and procedures that will be required for remediation. When the level of cleanup and the process for remediation is unclear, uncertainties about the time and money needed at brownfield sites become a disincentive for action. In addition, the difficulty in ensuring that site contamination is fully and accurately assessed contributes to uncertainty regarding liability, since future owners may be responsible for cleanup of prior contamination.

In order to address remediation at brownfield sites, regulators must determine the level of site investigation that is necessary to identify the type and extent (or absence) of contamination at a site. Identification generally begins with a Phase I Site Assessment during which environmental consultants are often engaged to provide analysis of government and other historical records, perform some site reconnaissance, and interview owners, occupants, and others associated with the site. If a Phase I assessment reveals evidence of contamination, a Phase II level assessment may be conducted including actual sampling of soil and groundwater. Once a site assessment is complete, plans for remediation can be developed.

Determination of the appropriate and feasible level of cleanup based on a whole host of criteria, including toxicity, exposure pathways, associated risk, future land use, and economic considerations, is central to brownfield cleanup activities. These are evaluated on a site-by-site basis. While this is a key element in all cleanup processes, state programs differ significantly in how they establish cleanup goals and remedy selection due, in part, to differences in state policies and the procedures that have been developed for decisionmaking purposes.

Legal Liability

Legal liability at brownfield sites is another major issue that acts in many cases as a barrier to cleanup and redevelopment. The potential for liability associated with hazardous waste sites, in general, is especially complicated by complex and often overlapping laws designed to address them at the federal and state level. Depending on the type and extent of contamination, as well as the current capacity (active or inactive) of a brownfield site, enforcement action may be warranted under the federal Superfund program, state superfunds, the Resource Conservation and Recovery Act (RCRA), and other federal and state environmental laws.

Within this legal framework, any association with a hazardous waste site implies some level of uncertain liability. This real or perceived threat of liability often deters interested parties (especially lenders and developers) from undertaking any transaction necessary to clean up and redevelop a brownfield site. Currently, federal or state liability assurances are limited in their ability to protect a private party from the potential for enforcement action at a brownfields site. However, EPA and some states have begun to address this issue.

Financial Issues

Financial constraints at brownfields act as another deterrent to brownfield activity since assessment and cleanup costs can be high. In some cases, site assessment costs alone will deter interest in a brownfield property. In addition, due to the threat of liability at brownfields, financing is often unavailable for these sites. While some brownfields remain economically viable even including remediation costs,

other sites will require some financial incentive for cleanup to occur and funding for many of these sites is scarce.

Community Concerns

Another issue that figures into the brownfields problem involves the fact that these sites do not exist in isolation. Though not always the case, brownfield property is often located in distressed communities and can be in close proximity to other businesses, retail districts, or residential areas. Depending on the size and scope of a brownfield site, community residents may expect some assurance that remediation will adequately protect their health and the environment and that they will be included in decisions regarding the type of activity that is planned for the property.

Redevelopment Prospects

Finally, it is not clear that there will be demand for much of this property even if the problem of contamination is removed, along with the potential for liability. Many brownfield stakeholders are quick to point out that concern about environmental contamination is only part of the problem. These sites, especially those located in distressed communities, pose other problems for redevelopment, as well. In some cases, the infrastructure is old and obsolete, and access to the property may be limited. In addition, other factors such as crime, high taxes, congestion, and low-quality amenities ultimately prevent redevelopment of brownfield sites.

STATE PROGRAMS

While state policies vary considerably, the three most common approaches for addressing cleanup and reuse of hazardous waste sites are state superfund programs, property transfer laws, and voluntary cleanup programs. Each includes a process for site assessment and remediation, with state superfunds and property transfer laws operating on an enforcement-driven basis.

State Superfund Programs

State superfund programs were created in most instances to address sites that are not considered hazardous enough to be placed on the NPL, but that a state believes may pose a significant health risk and warrant remediation. Although state superfunds were developed to cleanup hazardous waste sites, they are not specifically designed to address brownfields and the many issues involved with the reuse of these sites. Approximately 45 states operate their own superfund programs in the United States. Many of them include authorities and capabilities similar to the federal superfund program.

While there is some variation among the programs, state superfund or cleanup programs are generally characterized by the following features: procedures for emergency response actions and permanent remediation of environmental and human health risk; provisions for a cleanup fund or other financing mechanisms to support program activities; enforcement authority to identify and compel responsible parties to pay for site assessment and cleanup; authorized state agency with staff charged with responsibility for oversight of remediation activities, and provisions for public participation in the remediation process.

Property Transfer Laws

Property transfer laws are the second major approach states use to facilitate remediation of brownfield sites. They are, by definition, an indirect method for identifying and initiating cleanup activities. Property transfer provisions exist in the states as laws, regulations, or policies that make the transfer of real property, or ownership or control of such property, contingent on the discovery, identification, investigation, cleanup, or disclosure of the existence of hazardous waste contamination. These provisions vary across the states with some simply requiring full disclosure of the environmental condition of a site, others requiring a more advanced level of site investigation, and a few states requiring complete cleanup before a transfer can occur. In 1994, 18 states had some form of property transfer requirements.[1]

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[1] Elizabeth Geltman, *Environmental Issues in Business Transactions* (Charlottesville, VA: Michie Co., 1994), p. 340.

Voluntary Cleanup Programs

The programs receiving the most attention currently in the states are voluntary cleanup programs. Approximately 21 states[2] have established voluntary programs for the cleanup of hazardous waste sites, including nine states which passed legislation in the past year. Sites that typically enter a voluntary program have no or low to medium contamination problems and are not currently listed or being considered for the federal NPL or similar state superfund lists, although some states will address more difficult sites in their programs. Voluntary programs differ from other programs in that owners or developers of a site approach the state voluntarily to cooperatively work out a process by which the site can be cleaned up and prepared for development. Abandoned or orphan sites, on the other hand, typically become the responsibility of a state or local government for cleanup and often remain unaddressed.

Voluntary programs are particularly popular because they allow private parties to initiate cleanups and avoid some of the cost and delays associated with state superfund or other enforcement driven programs. Thus, it is the presence of the federal or state superfund laws that is largely responsible for encouraging private sector participation in these programs. Because voluntary programs involve a cooperative effort with regulators, in contrast to enforcement-driven cleanup programs, and often operate on a fee-for service basis, remediation and certification can take less time. In addition, because some voluntary programs may be more likely to consider future use in deciding on remediation plans, cleanup costs could be lower. Also, many state-run voluntary programs offer additional benefits to private parties such as technical assistance, financial support in the form of grants and low-interest loans, and importantly, liability assurances, such as a "covenant not to sue" or "no further action" letter from the state.

In many cases, states are interested in promoting voluntary cleanups because they typically require fewer government resources which assures that cleanups can continue with some level of official oversight. Because state voluntary programs are often operated on a fee-for-service basis, the voluntary party is typically responsible for all costs associated with the cleanup, allowing states to address more sites than they would in the absence of such programs. In addition, this helps put underutilized land back into productive use, generating jobs and tax revenues.

There are several key components of state voluntary cleanup programs that set them apart from other approaches and make them particularly well-suited for brownfields cleanup and reuse.

Technical Guidance and Oversight

Voluntary programs can be roughly divided into three categories regarding the relationship of the government agency to the private party and the cleanup of a brownfield site. These include:

- The state is involved with a private party to provide technical guidance and oversight for any stage of the cleanup process from site investigation through remediation that results in certification of completed work.
- The state certifies or acknowledges environmental professionals who provide oversight and expertise throughout the remediation process, and presents evidence of the completed work to the state agency which may or may not review a site and provide certification of completion.
- The state is involved only in the final review of a site to verify completed work and the environmental condition of the property.

As with all cleanup activity at hazardous waste sites, proper site investigation is necessary to characterize the condition of a site and develop cleanup plans. Most state voluntary programs require information from Phase I and II site assessments, though many states tailor them to address their own specific technical concerns.

The next step in the cleanup process is combining the findings about toxicity and exposures with cleanup standards in order to select a remedial plan. The menu of options that is of interest in remedy selection is extensive. Voluntary programs may employ exposure assumptions and cleanup standards based on pre-determined levels, future use-based levels (for example, industrial, commercial, or residential), and/or site-specific evaluations. This variation will result in the application of presumptive (for example, standardized) remedies favored by some states, approved or certified remedies, or tailored remedies based exclusively on an individual site. Each of these approaches requires some tradeoff of cost and time commitment.

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[2]The states are California, Colorado, Connecticut, Delaware, Illinois, Indiana, Maine, Massachusetts, Michigan, Minnesota, Missouri, Nebraska, New Jersey, North Carolina, Ohio, Oregon, Pennsylvania, Tennessee, Virginia, Washington, Wisconsin.

Finally, some states incorporate land-use controls as part of the brownfield cleanup and redevelopment process. In some cleanups, management or engineering controls (for example, placement of a parking lot over contaminated soil) are established to contain pollutants at a site, thereby lowering risks to human health and the environment as long as the use is not changed and the controls disrupted. The decision to rely on engineering controls requires some mechanism for recording and transferring this information to future users of a site.

Liability Assurance

Although many brownfield sites do not rank high among government concerns in terms of risk due to environmental exposure, there is still significant concern among stakeholders that they could be held liable for cleanup through any number of unpredictable means. Again, any association with a hazardous waste site implies some level of uncertain liability. Those interested in protection from liability are the most significant stakeholders; these include responsible parties (current or past owners who may have contributed to the contamination), prospective purchasers, lenders, and municipalities. In an effort to overcome the concern for liability and promote attention to brownfield sites for cleanup and reuse, some state voluntary cleanup programs offer a variety of assurances that limit some potential for liability.

Liability assurances are wide ranging and differ by the party that is granted protection and the type of protection that is made available. The types of liability protection offered by some states include: letters of "no association" to the contamination either as an innocent or involuntary owner, as a prospective purchaser, or as a neighbor to the site; absorption of private liability by the state or a municipality; exemption of some public entities, such as city or county governments for liability; covenants not to sue; and state certificates of completion or letters assuring no further action or interest in a site.

Of the 21 voluntary state programs, only seven offer a covenant not to sue, or other immunity from liability, which protects the recipient from state enforcement action, subject in some cases to reexamination if new information about contamination is found. In each of these programs, the protection is only granted on a site-by-site basis and may be limited only to parties who were not responsible for the contamination. All other letters of assurance vary in terms of their value to responsible parties, and do not offer release from liability.

Funding Support

Due to uncertainties involving the cleanup process and associated costs, interested stakeholders often avoid brownfield sites for financial reasons. While many voluntary programs are operated on a fee-for-service basis and often include a one-time initial payment for consideration by the program, some voluntary programs do offer financial incentives for participation. Funding assistance for initial site assessment, cleanup, or redevelopment typically comes in the form of public grants, loans or loan guarantees, and tax incentives. It is also quite common to offer public financial assistance to brownfield cleanup activities based on certain criteria including demonstrated need, the relationship of the volunteer to the contamination at the site (some states will not assist responsible parties), and demonstrated potential of the site for economic development.

UNRESOLVED ISSUES

As states debate important issues on brownfields, a number of unresolved challenges emerge. First, voluntary cleanup programs are particularly popular because they offer a less confrontational and potentially more efficient alternative to achieve cleanup and reuse of sites than enforcement-driven cleanup programs at the federal or state level. However, without the enforcement provisions of these programs, there is a risk that fewer voluntary cleanups will occur, placing more of the burden on state and local governments to pay for cleanup and redevelopment of brownfields.

Second, in an attempt to reduce uncertainties related to liability for cleanup at brownfields, some voluntary cleanup programs provide enforcement immunity or other liability assurances to particular parties or sites. A voluntary program can only offer liability protection as it is specifically defined by the individual state law and only applies to activities recognized by that state. In other words, assurances by state programs do not shield stakeholders from liability under federal law or third party lawsuits. As a result, even though in many cases the likelihood of federal or state enforcement under superfund provisions is low for these sites, there is still some question about whether these assurances can provide the needed security to increase the level of brownfield cleanup and redevelopment. While there is currently significant interest in removing or limiting liability for many stakeholders

at the federal and state level, there is still only minimal experience with this practice through brownfields.

The last issue that may require attention is the nature of the relationship between the federal government and the states with respect to brownfields cleanup. As states continue to develop and improve voluntary programs they exercise their own discretionary authority for such matters as the adequacy of cleanup standards, expectations for future use of a site, and liability protection for particular parties. These programs would likely gain more credibility with the private sector if they received some form of agreement or approval from the U.S. EPA. This could come in the form of a Superfund Memorandum of Agreement (SMOA), such as those held between Region V EPA and the states of Illinois and Minnesota, or through a certification process as outlined by legislation introduced in the 103rd Congress. Considerable variation among state voluntary programs could make development of SMOA's or certification difficult. More thought is needed on how EPA will recognize the authority of state voluntary programs and develop criteria that would be flexible enough to meet individual state needs, yet rigorous enough to ensure adequate cleanups.

Mr. OXLEY. Thank you for your testimony. There's a vote on the floor and Mr. Bilbray should be coming back and take the Chair so I can go over and vote, but in the meantime, let me start with you, Mr. Kirk, and ask you what is the comparison between the relative percentage of study and overhead dollars versus cleanup dollars in private versus public sector cleanup projects.

Mr. KIRK. Looking at, Mr. Chairman, historically the amount of administrative and study time that's spent in the private sector versus government, the private sector is about 30 percent, where the government is somewhere between 45 and 50 in the Department of Defense, and in the EPA, as has been identified here a number of times over the last couple of hours, is closer to 80 percent administration and study. So it's a considerable bit of difference.

Mr. OXLEY. Even a big difference between defense and EPA at the government level?

Mr. KIRK. A considerable bit of difference, even between Defense and EPA. That's exactly right.

Mr. OXLEY. And from your experience, why is that the case? Why is that such a rather staggering difference?

Mr. KIRK. It appears to be the joint and several, where the loan identifying the responsible party seems to be the constantly trying to redefine the problem, redefend himself in the court systems. EPA is forced to constantly defend themselves, to reorganize.

It's easier to study the problem than to clean it up. Decisions have to be made when you set a criteria. In my experience a lot of the studies have become part of the problem rather than part of the solution and considerable amount of the cost. At EPA, it seems like it's a considerable effort there.

Mr. OXLEY. Why would you as a remedial contractor be interested in efficient cleanups when an expensive cleanup would seemingly present larger profits for you? Could you explain that a little bit?

Mr. KIRK. Well, efficient cleanups, as I said we've been in the business 26 years and have done over 30,000 cleanups. There's over 100,000 cleanups that could be moved forward with some kind of a program under the brownfield or the immediate removal programs.

There is quite a number that need to be taken on. If we don't start cleaning up some of these sites, we're going to run out of

money and it's to our benefit, as well as to the industry's benefit, to spend the next dollar to actually clean up. That's our position.

Mr. OXLEY. Thank you. Mr. Bilbray's not back so I'm going to recess the committee. I've got about 3 minutes to vote, and we will stand in recess until return of Mr. Bilbray and he can take over the Chair. Thank you.

[Brief recess.]

Mr. OXLEY. The subcommittee will reconvene.

Ms. Linsenmeyer, I'm familiar with the OTA work, having served on the board there for a number of years and we've always appreciated the excellent work that OTA does and we hope that indeed your testimony is not the last testimony for your Agency because I think they do an excellent job.

Let me ask you this. As a result of your work on the report, are you in a position to identify some of the voluntary program elements that seem to be the most effective in those State programs that you mentioned?

Ms. LINSENMEYER. I think in the programs that have been around the longest, in Minnesota and Illinois, the people that participate in those programs, as well as the agencies that run them, definitely point to the liability assurances as a good part of their program, as well as technical assistance on the cleanups, because that basically clarifies the requirements that they have at those sites.

Mr. OXLEY. What would you think would be the biggest complaint that the States would have in this regard? What have you heard that they are uncomfortable with vis-a-vis the Federal statute and the Federal EPA?

Ms. LINSENMEYER. I'm not sure I can answer that question. I really haven't heard too many complaints necessarily about the relationship with the Federal EPA. I have heard, though, that for instance, again in Minnesota and in Illinois, the Superfund memorandum of agreement that they have, is an amended agreement that exists between Region 5 and those States, is especially valuable to them, and that, in fact, it is a good marketing tool for their voluntary cleanup program because they have such a strong relationship with the region.

Mr. OXLEY. Is it a coincidence that both States are in Region 5 that have two of the best programs at the State level, or is there some kind of a dynamic there?

Ms. LINSENMEYER. The Great Lakes States are active in this area. There's no doubt about that. Minnesota had the first program in the country, starting in 1988, and Illinois wasn't that far behind. Region 5 is very active. I can't speak to the other regions.

Mr. OXLEY. In your testimony you state that most sites considered brownfields are not associated with extreme levels of contamination and will never be considered for addition to the National Priorities List or similar State priority list. This would lead to the conclusion that the barriers to redevelopment are either not related primarily to contamination, or possibly that the liability fears are more perceived than real.

Could you comment on this?

Ms. LINSENMEYER. There are a number of other factors that hinder brownfield redevelopment. Poor location is certainly one of

them. Crime and old and obsolete infrastructure in many of these neighborhoods where they are found, especially in distressed communities and old urban areas are also hindering redevelopment and dampening demand for these sites, as well.

Mr. OXLEY. Thank you.

Ms. Buhl, does it make sense to enact statutory provisions providing protection from liability without addressing other remedial environmental statutes, like the Resources Conservation Recovery Act? Are there any other statutes that would be considered, such as Clean Water Act, or the Oil Pollution Act?

Ms. BUHL. We would like to have a comprehensive settlement with the entity with whom we're negotiating. If it's U.S. EPA, we would be delighted if we could enter into a settlement where they agree that all work has been completed, the site no longer poses a risk, we have extinguished our liability under all relevant Federal and State statutes. That would be our ideal settlement.

Conversely, if a State were able to do the same, if that happened to be the party with whom we were negotiating, that would also be our ideal.

Mr. OXLEY. Thank you.

The gentleman from Georgia, Mr. Norwood.

Mr. NORWOOD. Thank you, Mr. Chairman. I apologize for being late. Ms. Buhl, you have stressed the importance of extinguishing liability at some juncture in the brownfield redevelopment process and from that point of view I'd like to follow up with a couple of questions.

From the seller's perspective, what is the most effective means of extinguishing such liability? For example, a covenant not to sue, or no further action, determination, or contribution protection?

Ms. BUHL. I think our first choice would be for the statute to contain a number of bullet points. In other words, as section 107 rattles off how you can become liable, we would like to have a section that rattles off how you can become unliable, what actions you take.

Recognizing that could be difficult and a little bit inflexible and may not apply fairly to all situations, our next choice would be a covenant not to sue, and contribution protection from both the State and a Federal entity.

Mr. NORWOOD. Well, from your experience as a seller and a redeveloper and so forth, when it comes to the lenders, what sort of protection is most important, do you think, to them?

Ms. BUHL. It's hard to speak for banks, but let me just make this one point. I think they appreciate the concept that they may not be held liable if they have not contributed to the management of the property, and those ideas have been circulating. But I think they also are concerned about the value of their collateral.

So if the contamination remains, they may still be worried, and I'm sorry, I really don't have a suggestion. I assume they do.

Mr. NORWOOD. I'm certain that they will, but they need some sorts of protections for them to be able to lend and protect their loan.

Ms. BUHL. I think a covenant not to sue goes a long way toward their not being directly approached, then, for cleanup costs and that does help their position.

Mr. NORWOOD. Thank you very much.

Ms. Robinson, I'd like to ask you a question, if I may. I do appreciate your emphasis on the need for fast, safe, and effective cleanup at Superfund sites. I'm sort of concerned, however, that expansions to community involvement programs could hinder rather than accelerate response actions.

What assurances can the committee have that the public participation recommendations you have made would not do that? Would slow it down?

Ms. ROBINSON. Sir, there's an addendum to my written testimony from a consulting firm, an environmental consulting firm, which clearly indicates that their experiences show that where the communities have been involved, it has speeded up cleanups and also reduced the overall cost because you tend to reach a decision that everyone can live with.

Then those decisions don't get re-opened and you don't end up with endless fighting between the citizens and the industries and the government.

Also, from my experiences of talking with CEO's of some industries involved in Superfund cleanups, there was also that general feeling that the more the citizen is involved, the more he understands, the more he knows, the more he puts in information into it, the better cleanups you can get and the less problems are going to exist thereafter.

Mr. NORWOOD. So your basic approach is that this would accelerate or speed up or improve the process, not hinder it?

Ms. ROBINSON. Very definitely, sir.

Mr. NORWOOD. You have argued that a repeal of retroactive liability, which is a subject I think this subcommittee is going to address next week, you've argued that that will discourage voluntary cleanups. As others are testifying today, don't you think that there are sufficient forces in the marketplace to ensure that sellers, prospective purchasers and other stakeholders will continue to be interested in redeveloping brownfields?

Ms. ROBINSON. No. I see, especially when we look at certain inner city areas and especially the older cities of this country, we see areas that are utterly devastated. In terms of redevelopment, brownfields to greenfields, I think we must be very careful not to apply one size fits all to it, and that because not all communities would like to see those brownfields become other industries, that we feel that that is making our communities permanent sacrifice zones and we would like to see them more or less restored to what they were before.

If you do away with retroactive liability, there's simply not going to be enough money to take care of anything, whether it's turning it from a brownfield to a greenfield, or an actual cleanup or what-have-you. There's just not going to be enough money. What's going to cause an industry to get involved in a voluntary cleanup if he knows he has no liability there?

Retroactive liability drives a number of things, including also the development of new technologies. Industries know, well, we've got a responsibility here. We've got to get this cleaned up. We want to get it cleaned up as efficiently and cost-effectively as we can. A lot

of the technologies that exist today are simply inadequate. There is this tendency to want to develop new technologies to do the job.

There are many other reasons for not wanting to drop retroactive liability, but I won't go into all of them here.

Mr. NORWOOD. Mr. Chairman, I appreciate your letting us run over time. Thank you.

Mr. OXLEY. I thank the gentleman.

Let me ask just one final question because I meant to ask Ms. Buhl when it was my turn originally in the Michigan situation.

You have stressed the need to focus on future land use in deciding how a brownfield site is to be redeveloped. Do you have any thoughts on how the committee can define categories of future land use with residential, industrial and the like?

And you also mentioned the Michigan situation. I had an opportunity to discuss briefly with your Governor, the Governor of Michigan, the changes that the State had made rather recently. I think you referred to it in your testimony.

Is that a good start, and could other States enact that kind of legislation, dealing with brownfields and future land use?

Ms. BUHL. Yes. I think the categories in the Michigan statute are residential, commercial, recreational, although I'm not too clear what that is, industrial. And then they have sort of a subcategory of limited residential and limited commercial, et cetera. I am not yet clear on exactly what difference that is and how you would use that to apply it to a site, but I assume that the best place to start would be a zoning authority and take a look at how they break down land use categories as they lay out a master plan for an area. But I think the Michigan statute is a very good start.

Mr. OXLEY. Do you know how long the Michigan statute's been in effect?

Ms. BUHL. Which, the amendments they just passed?

Mr. OXLEY. Yes. That was just this session of the legislature?

Ms. BUHL. Yes. Like the Governor signed it maybe May 30.

Mr. OXLEY. Okay. I know it was relatively soon, the way Governor Engler mentioned that.

Mr. Kirk, you indicated that the company had been able to complete 30,000 projects. While you are a relatively large company and have facilities in different places, you are not the only remedial firm out there. Do you have any idea about what the rest of the industry has done in terms of remediation and cleanups?

Mr. KIRK. In the Superfund site? I think that's pretty accurately tracked, Superfund, but we do also emergency responses. We do cleanups for non-RCRA, non-Superfund, just environmental insults throughout the country. I would imagine that we have probably about 8 percent of the market in that area.

Mr. OXLEY. You had indicated 30,000 projects. Were all of those projects not necessarily just Superfund related?

Mr. KIRK. That's correct.

Mr. OXLEY. And you represent about 8 percent?

Mr. KIRK. Eight percent of the market. That's correct.

Mr. OXLEY. So we could essentially extrapolate that 30,000 to a much higher number based on the percentage?

Mr. KIRK. Yes, maybe 300,000.

Mr. OXLEY. The gentleman from Georgia.

Mr. NORWOOD. Just one last question, Mr. Kirk. I'm curious. Do you think there are companies out there that are interested in voluntary cleanup?

Mr. KIRK. Oh, absolutely.

Mr. NORWOOD. Why?

Mr. KIRK. There is some economic benefit to doing voluntary cleanups at some of these brownfield sites, and we see it consistently. Over the last couple of years, the cleanups that we have performed are primarily for voluntary cleanups for brownfield facilities or for liability-type reasons, not necessarily for the environmental laws themselves. There are companies very interested in doing it.

Mr. NORWOOD. I thought so. Thank you, Mr. Chairman.

Mr. OXLEY. We again thank our panel for coming. Many of you came a long way and we appreciate the testimony, and the subcommittee is now adjourned.

[Whereupon, at 2:08 p.m., the subcommittee was adjourned, to reconvene at the call of the Chair.]

[The following statement was received for the record:]

STATEMENT OF THE AMERICAN FOREST AND PAPER ASSOCIATION

The American Forest & Paper Association (AF&PA) is the national trade association of the forest, pulp, paper, paperboard and wood products industry. AF&PA represents approximately 395 member companies which grow, harvest and process wood and wood fiber, manufacture pulp, paper and paperboard products, and produce solid wood products. The industry accounts for over 8 percent of U.S. manufacturing output.

AF&PA's member companies, like other manufacturers, support reform of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) or "Superfund." We share the concerns of others with the remedy selection and liability allocation provisions. However, our member companies find several provisions governing Natural Resource Damages (NRD) to be especially unfair and punitive, particularly as they have been liberally interpreted by regulators and the courts. We would hope that as Congress considers reauthorization of CERCLA, it takes this opportunity to make several major changes to the NRD provisions.

Through the years, regulators have made successful arguments before the courts that have resulted in many overly expansive interpretations of some of CERCLA's key NRD provisions. One such area involves the assessment of damages for "nonuse value"—a wholly subjective value based on an estimate of an individual's willingness to pay for the preservation or protection of a particular resource, now and in the future. The damages assessed for nonuse values are derived from highly speculative surveys in which people are asked, for example, how much they would be willing to pay to prevent harm to, or to restore, a resource they have never used. The speculative nature of these surveys can result in damage awards that greatly exceed most parties' ability to pay and that are unrelated to the natural resource injury in question. Although the statutory language does not support recovery of damages for nonuse values, regulators and the courts have consistently sanctioned recovery for these values.

Another overly expansive interpretation of an NRD provision involves the issue of "retroactive liability." The statute clearly indicates that Congress did not intend to impose NRD liability retroactively for acts of disposal that occurred before 1980—the year CERCLA was enacted. Nevertheless, courts have accepted the arguments of trustees that NRD liability should be imposed for acts of disposal occurring prior to CERCLA's enactment, as long as some injury occurred after 1980. Additionally, in enacting CERCLA, Congress intended to limit the total natural resource damage liability resulting from releases of hazardous substances from a facility or group of related facilities to $50 million for the entire location affected by such releases. However, courts have been persuaded by the arguments of trustees that each movement of a molecule of chemical in the environment is, in fact, a separate "release," and that each "release" is individually subject to a $50 million cap. The potential liability from such an interpretation is clearly beyond that which Congress envisioned.

Finally, under CERCLA, parties can be held liable for significant NRD damages even where the waste disposal activity underlying the claim was one that was per-

mitted or otherwise approved under applicable law. This result runs counter to the exemption that Congress provided in section 1002(c) of the Oil Pollution Act of 1990, which provides that parties *cannot* be held liable for damages caused by discharges permitted by a Federal, State, or local permit. These include natural resource damages falling under that Act. We believe that similar treatment under CERCLA is both desirable and equitable.

In response to these key concerns, we urge the subcommittee to revise the NRD provisions in several specific ways. First, Congress should amend the statutory language to ensure that NRD assessments are conducted in accordance with the original intent of the statute, including clarification that: (1) non-use values should not be used to form the basis for damages; (2) natural resource damage recovery should be limited only to instances where trustees can demonstrate resource injury resulting from the disposal of hazardous substances occurring after December 11, 1980; and (3) the aggregate recovery for natural resource damages resulting from releases of hazardous substances from an incineration vessel or a facility or group of facilities shall not exceed $50 million for the entire area affected by such releases. Finally, we urge the subcommittee to amend the NRD provisions to conform more closely with the Oil Pollution Act and provide an exemption from NRD liability where the underlying waste disposal activity was authorized under a governmental permit or otherwise authorized by Federal, State, or local law.

SUPERFUND REAUTHORIZATION
Natural Resources Damage

TUESDAY, JUNE 20, 1995

HOUSE OF REPRESENTATIVES,
COMMITTEE ON COMMERCE,
SUBCOMMITTEE ON COMMERCE, TRADE,
AND HAZARDOUS MATERIALS,
Washington, DC.

The subcommittee met, pursuant to notice, at 10:35 a.m., in room 2123, Rayburn House Office Building, Hon. Michael G. Oxley (chairman) presiding.

Members present: Representatives Oxley, Gillmor, Crapo, Bilbray, Whitfield, Ganske, Frisa, White, Tauzin, Furse, Markey, Brown, Stupak, and Bliley.

Staff present: Nandan Kenkeremath, majority counsel, Fernanda Dau, majority professional staff, and David A. Frandsen, minority counsel.

Mr. OXLEY. The subcommittee will come to order.

And before recognizing and introducing our panel, I would like to go to the chairman of the full committee, the gentleman from Virginia, for an opening statement.

Chairman BLILEY. Thank you, Mr. Chairman.

I commend you for holding this hearing on natural resources damage or NRD. We did not look at this issue in the last Congress, but it is an area where there is considerable concern over the potential costs of liability.

Few NRD claims have been completed to date because the claims must follow completion of the remedial action at a site. Some have called potential NRD claims a "sleeping giant" in the program. The potential claims at the Clark Fork site alone amount to over $600 million.

Unfortunately, a number of the principles that many Members of Congress believe were part of the NRD provisions have been seriously eroded in administrative and judicial interpretation. For example, section 107 of CERCLA states that, "There shall be no recovery where such damages and the release of a hazardous substance occurred wholly before December 11, 1980."

For many, this meant that there would be no retroactive liability actions taken before 1980. Yet, the administrative agencies have interpreted this language to apply liability to current corporations which bought other corporations which engaged in mining in the early 1900's. The slim logic is apparently that rain fell after 1980, and continues to cause leaching at mining sites. The fact is that

this slim logic again means retroactive liability and fundamental unfairness.

There are other areas which will be touched upon today that also have caused confusion when addressing a natural resources damage claim. Under the current system, the responsible parties are being forced to pay exorbitant costs in the form of non-use and lost-use values. Each of these measures of damages are above and beyond the cost to restore the resource to a baseline condition.

A survey was done a few years ago which tried to measure the non-use value of preserving whooping cranes. When the information came in, the result was a grand total of $32 billion per year. In 1991, the total amount of money given to all environmental causes was only $2.5 billion. That figures out to be $29.5 billion more to preserve the whooping crane than the total amount of charitable contributions designated for environmental issues in 1991.

These additional amounts of money being attributed to nonrestoration measures under NRD can be astronomical. The Clark Fork site in Montana is an example of the potential of overspending on nonrestoration-based activity. At Clark Fork, the total potential amount being sought for natural resource damages is somewhere around $635 million. This figure does not represent the amount of money necessary for the restoration, but only covers the amount for non-use and lost-use value.

No one disputes that restoration is important. The NRD program should reflect the importance of restoration without exacting unnecessary and unfair costs upon the responsible parties.

I look forward to hearing from today's witnesses and to learning more about this important issue.

Thank you, Mr. Chairman.

Mr. OXLEY. The gentleman's time has expired.

Are there other members seeking recognition?

The gentleman from Michigan, Mr. Stupak.

Mr. STUPAK. Thank you, Mr. Chairman.

I seek recognition for the purpose of an opening statement.

Mr. Chairman, I appreciate the detailed hearings you are holding on Superfund reform. Since I have 9 Superfund sites in my district and because much of my district borders on the Great Lakes, I am here to hear what our witnesses have to say today about natural resources damages.

Under the Superfund program, governments can recover from a responsible party for damages to our natural resources. Specifically, Federal, State and foreign governments, as well as Indian tribes, can sue for damages, injury to, destruction or loss of, or loss of use of natural resources such as wetlands, fish and wildlife habitat.

As of April 1995, Federal agencies had settled 98 natural resource damage cases, for an estimated total of $106 million. While it is true that 48 of these cases were settled with no payment and 36 cases were settled with less than $500,000 each, the General Accounting Office study released on May 11, 1995, goes on to say, "Federal and State officials told us, GAO, of 3 future settlements that could involve hundreds of millions of dollars."

They also indicated that there may be other future instances where claims will exceed $50 million per geographic area. Further, the Federal Government faces a potential for large damages at some of its most contaminated facilities. And as Mr. McKnight states in his testimony, in a number of cases, trustees have threatened claims in excess of $1 billion.

It is no wonder then that companies prefer to hire attorneys and further delay the actual cleanup costs. As we have heard in other hearings, exorbitant amounts of money are being spent on attorney's fees rather than on actual cleanup.

Mr. Chairman, I am not opposed to natural resource damages, and I believe they are sometimes appropriate, but I do have great concern about measuring natural resource damages.

While the Superfund law does provide some guidance, there is no definition or section in the law which explicitly defines a standard or method for assessing natural resource damages.

I also have some concerns about the methodology for determining contingent valuation. As you know, contingent valuation is a method used to measure the economic loss to persons who do not use the resources in question.

A basic question asked in contingent valuation is, how much would you, being the taxpayer, be willing to pay for this resource? I hope that when we are rewriting the Superfund law, we can find a balance between the very real need to protect our natural resources and the need to be reasonable when it comes to assessing those damages on businesses and industry.

Mr. Chairman, I yield back the balance of my time

Mr. OXLEY. I thank the gentleman for his statement and certainly agree with the last paragraph particularly.

The Chair will recognize himself for an opening statement.

The subcommittee consideration last Congress of Superfund reauthorization did not include the subject of natural resources damage or NRD. NRD is, however, part of the enormous cost of CERCLA and needs careful examination. The NRD provisions recognize that while the removal and remedial portions of the cleanup process remove the ongoing hazards to health and the environment, they did not always restore or rehabilitate the natural resources.

CERCLA addresses these concerns by empowering Federal, State and tribal trustees to seek damages from potentially responsible parties and dedicate this money to rehabilitation activities. This provision and subsequent interpretations have raised a number of concerns.

The first concern is over what activity can make a party liable for NRD claims. Language in the statute indicates an intent for liability to assign prospectively.

Unfortunately, administrative and judicial interpretations have stretched the definition so that NRD claims can be brought for mining areas that have been inactive for decades before the 1980 law. These interpretations create enormous liability for companies, simply because of acquisition of old mines or other sites.

The language also creates confusion over what is the baseline for a damage assessment. Are the baseline damages beyond the condi-

tions of 1980, or is the baseline the pristine conditions at the turn of the century? We may need to make clarifications in this area.

A second area of concern is the $50 million cap on liability. As the statute is written today, there is uncertainty regarding whether the cap is meant per site, per individual release on a site, or per group of releases at a site. There have been several interpretations of what is meant by the $50 million cap. The statute needs to be clarified so the responsible parties, trustees and the courts can follow the same definition.

The third area that we need to examine is the use of non-use and lost-use damages presently being assessed by the program today. The present process used to determine non-use values is called contingent valuation methodology or CVM. There have been many debates on the merit of contingent valuations and several noteworthy economists have agreed that CVM's are too unreliable to be used to assess vast quantities of damages.

A Blue Ribbon Panel was convened to examine the value and reliability of contingent valuations in January 1992. In its examination, the panel determined that prior CV's were unreliable and made a number of suggestions for improvement to CV's. With these improvements, the panel concluded that "CV studies can produce estimates reliable enough to be the starting point for a judicial or administrative determination of natural resource damages."

This is not an unequivocally supportive recommendation when potentially hundreds of millions of dollars are at stake. Moreover, many economists who both administer and study the subject still find CVM a flawed way to determine the financial worth of a particular resource.

Finally, both supporters and critics of the NRD program agree upon at least one area that needs to be addressed, the statute of limitations. The language has caused a great deal of confusion and resulted in needless filing of claims by the trustees.

As Mr. Hall states in his testimony, the trustees are often compelled to file litigation prematurely before restoration planning has been completed and restoration costs are fully known. At a time when the American public is calling for less litigation, the filing of unnecessary and premature claims by the trustees because of uncertainty regarding the statute of limitations needs to be addressed.

I look forward to hearing from our witnesses and learning about an important part of the Superfund program.

The chairman's time is expired, and I now recognize the gentlelady from Oregon, Ms. Furse, for an opening statement.

Ms. FURSE. Thank you, Mr. Chairman.

I am very pleased that you are holding this hearing because I come from a district that is heavily dependent upon healthy natural resources for its economic vitality. When those resources are damaged, my constituents experience a direct financial loss. A classic example of this is the Pacific salmon.

As recently as 1988, the Northwest world class salmon runs brought more than $1 billion and 60,000 jobs into the region. But in just the last 6 years, the salmon fishing industry has lost more than 47,000 jobs and 90 percent of its revenue. There are many, obviously, many reasons for the decline in our salmon, but one

major factor is habitat degradation, and that includes the contamination of spawning grounds from past and current mining operations.

As a region, the Pacific Northwest is now spending hundreds of millions of dollars per year to recover our endangered salmon and restore their spawning habitat, but we cannot afford to also pay for the resource damage caused by private companies.

I think the question we have to ask ourselves when we consider change is, who is going to pay for the cleanup? If responsible parties do not pay to fix the damage they have done to public resources, then the American taxpayer has to pay. And they will have to pay not once, but twice. In the case of salmon, my fishing constituents have already paid once. They have paid with their jobs.

They will have to pay a second time, however, with their tax dollars for the cleanup if polluters are allowed to shirk their responsibility, and I think this is fundamentally unfair and I think we should oppose attempts to shift liability from private polluters to public taxpayers.

I am very heartened by some of the recent successes we have seen with the Superfund Natural Resource Restoration program. In particular, I am pleased with the recent settlement in the Blackbird Mine case in Idaho. At this site, spring and summer chinook salmon, which are endangered throughout the Snake River Basin, were exterminated in the tributary as a result of acid mine damage draining from the mine into the river. But Federal, State and tribal trustees successfully negotiated a settlement with the mining companies to restore the creek and reseed it with salmon.

I look forward to hearing today how we can improve the program to produce more Blackbird Mine settlements.

And I thank you, Mr. Chairman, for holding this important hearing.

Mr. OXLEY. The gentlelady's time is expired.

Are there other members seeking recognition for an opening statement?

The gentleman from Idaho.

Mr. CRAPO. Thank you, Mr. Chairman.

In the interest of time, I will not give my opening statement. I share many of the concerns that have already been raised, but I ask unanimous consent to put it into the record.

Mr. OXLEY. Without objection.

All members' opening statements will be part of the record.

[The prepared statements of Representatives Mike Crapo; Paul Gillmor; Brian P. Bilbray; and Greg Ganske follow:]

PREPARED STATEMENT OF HON. MIKE CRAPO, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF IDAHO

Mr. Chairman, thank you for holding these hearings and providing the opportunity to discuss a new issue, natural resource damages (NRD), in the continuing dialogue regarding the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA/Superfund).

There are several Superfund sites in Idaho and most of them are in my district, so what we examine here will have a direct effect on many of my constituents.

Natural resource damages is relatively new to the Superfund debate, but my growing knowledge of the issue leads me to believe that unless this portion of CERCLAS is closely examined and clarified it has the potential to wreak havoc on

jobs and communities. It is a provision whose damages are imposed over and above the costs of clean up.

CERCLAS does not specifically define a standard or method for assessing natural resource damages. The statute uses such vague terms as "best available procedure," "indirect injury," and "replacement value." Trustees are allowed to consider, with little guidance, such things as "lost use" and "non use" values, neither of which is precisely quantifiable under any definition.

The 1986 CERCLA amendments require EPA to notify trustees of potential natural resource losses. EPA invites the trustees to participate in site inspections and settlement negotiations, but here EPA's coordination authority ends and trustees no longer have to work cooperatively. Because of this, the potential for multiple trustee assessments is high, adding more and more cost to the final claim.

The CERCLA natural resource damage provisions imposes a $50 million cap on the amount of NRD damages that may be recovered. On the surface this appears to be a positive provision which limits attempts to inflate damage claims. However, specific language states that the limit applies to "each release incident involving release of a hazardous substance."

Without sound clarification and definition of the term "release," this language has the potential to pave the way for damage suits that are virtually unlimited in scope. The effect of this loophole on some industries could be devastating.

Many future NRD claims will be made on mining sites. In Idaho, several of my Superfund sites are mining areas. The vague definition of "release," leaves these enterprises vulnerable to a broad delineation that could bankrupt the industry.

Finally, trustees use various methods to attempt to put an arbitrary value on natural resource damages. One such method, contingency valuation, relies on an unscientific survey which is given at random to individuals who may or may not be familiar with the particular site in question. They are asked how much they might personally be willing to pay to help restore a particular resource, knowing they will never be asked to pay this amount. Even if it is small, $75 or less, when multiplied by and entire region, state, or even the country, the cost becomes mammoth.

Many questions about NRD need to be answered before a final Superfund bill is introduced and passed. This hearing will more accurately portray and help clarify the intent and applicability of NRD. Thank you again for the opportunity to shed some light on this previously unexamined issue.

PREPARED STATEMENT OF HON. PAUL GILLMOR, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF OHIO

Mr. Chairman, I want to commend you for holding this important hearing on Natural Resource Damages (NRD). During our Superfund discussions of the last Congress, this committee did not hold any hearings on this matter. Consequently, it was also not included as part of H.R. 3800.

However, if this committee is to become serious about reforming Superfund and the way it operates, then NRD must become part of that discussion. My own State of Ohio knows the reach of CERCLA into NRD because of the 1989 *Ohio v. U.S. Department of the Interior* case. Here, the D.C. Circuit Court ruled that the Interior Department could not use its own standard for restoration costs, but must use the structure outlined in Superfund instead.

In addition, mirroring my concerns about the Superfund liability scheme, I am curious about the per release limitation. This limitation can drag responsible parties into spiraling costs if more than one spill occurred on the site, as opposed to the singular expense cap for one spill. I also am concerned about the consistency involved with the "wholly before" provisions that look to hold "the feet the fire" of individual companies that polluted a site, but exonerate from liability those sites contaminated by more than one entity before 1980.

PREPARED STATEMENT OF HON. BRIAN BILBRAY, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF CALIFORNIA

Mr. Chairman, I am looking forward to learning from the testimony of these witnesses, so I will attempt to be brief. I appreciate you holding this hearing, for both practical and philosophical reasons. Practical because this is a tangible component of the Superfund program which is clearly in need of revision, and philosophical because it is a prime example of why we need to revisit the way we look at and practice environmental stewardship.

Make no mistake—this is not an argument over whether there should be responsibility for environmental damage that occurs at a CERCLA site. It is instead about

how we go about doing it, and whether actual benefit to the environment and the public accrues as a result. Under the existing Natural Resources Damage program, the answers to these questions are at best, suspect.

There are three aspects of the NRD process which are of particular interest and concern to me, and which seem to have been at the root of the problems of ambiguous and arbitrary interpretation which plagues the program. These are: 1. Scope of liability; 2. Assessment of damages; and 3. Measurement of damages.

When ambiguous statutory language fails to clarify who is responsible for a given "release" of a hazardous substance, thereby rendering it open to case-by-case interpretation, there are bound to be problems. When the same ambiguous language fails to clarify limitations on recovery of damages at an NRD site, it creates unhealthy incentives to manipulate the system, and not to the benefit of the environment. And when the process by which damages are measured includes no explicit method or standard for assessment of said damage, it can come as no great surprise that more time and resources are wasted on legal jousting than are devoted to actual cleanup.

Mr. Chairman, from the standpoint of protecting the public health and the environment, it is not enough to simply point to a section of a law with an environmentally-sensitive name (such as NRD), throw money at it, and pat ourselves on the back for "saving the environment". We have to look at the actual benefits derived from that program, and from what I've seen so far in this case, it looks pretty darn minimal. As a new Member of this Committee, I am hopeful that this hearing will shed revelatory and clarifying light on the use and application of such ephemeral terms as "contingent valuation", "wholly before", and "non-use values", so that it will become clear to me where and how the problems have arisen, and how to best proceed from here. Thank you, Mr. Chairman.

PREPARED STATEMENT OF HON. GREG GANSKE, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF IOWA

Thank you Mr. Chairman. This is the fourth hearing on the issue of Superfund reform. There is a common theme among witnesses testifying before the Subcommittee. Superfund is broken. It has become a morass of legal claims and litigation. It is *not* effective in accomplishing the critical goal of cleaning hazardous waste sites listed on the National Priorities List (NPL) quickly and efficiently.

Today we will hear testimony on the topic of Natural Resource Damages. While this issue is perhaps, not as widely debated as remedy selection, or liability reform, the Natural Resource Damages title of CERCLA has the potential to cost businesses, the government and ultimately the taxpayer, billions of dollars over and above remediation costs. In the case of Clark Forks, NRD claims have the potential to exceed $600 million dollars. If left unreformed, NRD claims could bankrupt Potentially Responsible Parties (PRPs) at hazardous waste sites and have the unintended consequence of delaying clean-up and remediation.

As a new member to the Committee, I have a number of concerns is regarding the NRD claims process and several questions about the legislative history behind the development of the NRD program. First and foremost, I am concerned by the apparently expanding use of contingent valuation. As a physician, I am troubled by the methods used to determine non-use values which then form the basis of NRD claims. I am also concerned with the existing structure of the trustees. I am troubled by the apparent lack of consistent coordination between trustees and the potentially adversarial nature between elements of federal and state governments. As recent cases have shown, there is some confusion over the interpretation of the $50 million cap on NRD claims. Does the cap apply per site, per incident, per release? This area must be better defined. Finally, I am very intrigued with the provisions of CERCLA that limit certain NRD claims to post 1980. While I realize that the statute is imperfect, it does set a precedent for limiting retroactive liability and should be used as a basis for further discussions on overall liability reform, which I am pleased to note, will be the topic of our next hearing.

Mr. Chairman, I am very pleased with the make-up of the panel today. I know that the testimony we will hear will be invaluable as we move forward with Superfund reform. Thank you, and I yield back the balance of my time.

Mr. OXLEY. We now turn to our panel, and introduce them.

Our first witness, the Honorable Douglas Hall, Assistant Secretary for National Oceanic and Atmospheric Association; Mr. Charles de Saillan from NAAG, National Association of Attorneys General; Mr. Martin McHugh from the New Jersey Department of

Environmental Protection; Mr. Keith Meiser from CSX Transportation Incorporated; Mr. Kevin McKnight, Aluminum Company of America; Thomas Ginn, from PTI Environmental Services; and Bill Desvousges, Triangle Economic Research.

Gentlemen, thank you all for participating, and we will begin with Mr. Hall.

STATEMENTS OF DOUGLAS K. HALL, ASSISTANT SECRETARY FOR OCEANS AND ATMOSPHERE, NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION, DEPARTMENT OF COMMERCE, ACCOMPANIED BY CRAIG O'CONNOR, COUNSEL; CHARLES DE SAILLAN, ASSISTANT ATTORNEY GENERAL FOR NATURAL RESOURCES, NEW MEXICO, ON BEHALF OF NATIONAL ASSOCIATION OF ATTORNEYS GENERAL; MARTIN J. McHUGH, NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION, ON BEHALF OF ASSOCIATION OF STATE AND TERRITORIAL SOLID WASTE MANAGEMENT OFFICIALS; C. KEITH MEISER, COUNSEL, CSX TRANSPORTATION, INC.; KEVIN L. McKNIGHT, MANAGER, ENVIRONMENTAL REMEDIATION PROJECTS, ALUMINUM COMPANY OF AMERICA, ON BEHALF OF COALITION FOR NRD REFORM; THOMAS C. GINN, VICE PRESIDENT, PTI ENVIRONMENTAL SERVICES; AND WILLIAM H. DESVOUSGES, PRESIDENT, TRIANGLE ECONOMIC RESEARCH

Mr. HALL. Thank you, Mr. Chairman.

I am Douglas Hall, Assistant Secretary of the Department of Commerce and Deputy Administrator of the National Oceanic and Atmospheric Administration. With me representing the administration are John Cruden from the Department of Justice and Craig O'Connor, NOAA's Special Counsel for Natural Resources.

I am here today on behalf of the Departments of the Interior and Agriculture as well as NOAA to discuss the natural resource restoration requirements of Superfund. NOAA, Interior and Agriculture, along with the States and Indian tribes, are trustees for our Nation's natural resources under the provisions of that statute.

At this time, I ask that my written testimony be received for the record.

Mr. OXLEY. Without objection, all of the written testimony will be made part of the record.

Mr. HALL. The fundamental question that we face, Mr. Chairman, in the reauthorization of Superfund is to what extent should those who have polluted our environment and in so doing, adversely affected the health and economic well-being of others, be held responsible for their actions?

Before I go further, I would like to briefly describe a recently resolved natural resource restoration case to demonstrate what the natural resource damage provisions of Superfund are all about.

Congresswoman Furse mentioned this case. It is in Congressman Crapo's district in East Central, Idaho, and years of discharge of mine drainage contaminated with highly toxic metals, such as copper, have eliminated miles of critical chinook salmon spawning habitat.

First, this is an aerial photo of the Blackbird Mine site in Idaho. The great barren areas in the photograph are the result of mining

operations that have left an 11-acre open pit and generated millions of tons of tailings over 2 million cubic yards of waste rock.

The next picture is the fork of the Blackbird Creek, and it is severely contaminated with heavy metal deposits. Iron contamination causes the water's orange color and prevents the stream from providing suitable salmon habitat.

The next picture is Deer Creek, and this is severely contaminated with copper. The high concentration of copper causes this brilliant blue color and is lethal to many aquatic organisms and to salmon.

In this case, we worked with the mining companies and the State of Idaho and other Federal trustees, the Department of Agriculture, to develop a restoration plan, and it is a great example of the industry working with the government to fulfill the responsibility to clean up the damage that was done and to restore this habitat.

In this particular case, we have developed a restoration plan that will assure the return of the chinook salmon and other fishery resources to the Panther Creek watershed and compensate the public for the lost use of those resources.

The plan calls for the mining companies to clear the streambeds of mine waste and rubble, provide for hatchery operations for restocking chinook salmon, purchase grazing rights to protect other portions of the watershed to allow enhanced salmon recovery, and maintain the quality of the water in Panther Creek and its tributaries such that salmon can return and survive.

Most of the restoration work will be performed by the mining companies under the direction of Idaho and the Federal trustees.

Restoring the natural resources of our country where such resources have been destroyed or degraded as a result of pollution is what the natural resource damage provisions of Superfund are all about. A number of proposals advanced by some segments of industry would effectively eliminate natural resource damage provisions from Superfund. Doing this would amount to turning our backs on the harm they have caused our natural resources and those whose livelihoods depend on those resources.

Those entities that caused the damage would bear no responsibility for the environmental and economic havoc they have caused. This is contrary to the overwhelming sentiment of the American people.

A fundamental principle of our society holds that we are each responsible for our actions and if those actions harm others, we must compensate for that harm. Violation of that principle is being called for in some of the proposed reforms to the natural resource damage provisions of Superfund.

The issue is not whether these activities were legal or illegal at the time that they occurred. The issue is harm and assuming responsibility for that harm. The harm is not abstract. It is real. It is persistent. It involves the health and economic welfare of the people of this country.

The harm is to the commercial fishermen in Southern California who have been denied the right to pursue a livelihood because the fish they catch are so contaminated by DDT and PCB's that they are not safe for human consumption. The harm is to fishermen

along the Hudson River where their fisheries have been closed because of PCB contamination from General Electric plants.

The harm is to the fisherman in Lavaca Bay, Texas, where mercury contamination from Alcoa's aluminum plant has forced fishery closures since the 1970's. The list goes on and on.

In Clark Fork, Montana, one of the largest NPL sites in the country where ARCO is the principal responsible party, years of mining and smelting operations have resulted in the massive contamination of Silver Bow Creek and the Clark Fork River with attendant significant impacts on tourism, recreational fishing and Indian subsistence fishing rights.

In Coeur d'Alene Basin in Idaho, where decades of mining and smelting have resulted in the discharge of millions of tons of mine and mill tailings containing lead, cadmium, arsenic and zinc, there has been extensive damage to vegetation, fish and wildlife which has substantially reduced or eliminated any economic dependence on those degraded resources.

Some of the proposals for reform, if enacted into law, would mean that the responsibility for restoring the natural resources at each of these sites would no longer be that of the parties who damaged or destroyed these resources. The responsibility may become that of the State or Federal taxpayer, or it may go unaddressed. It certainly would not be that of the party causing the harm.

The natural resources of this country are held in trust for each of us. We rely on those resources for our livelihood, for our recreation and for our quality of life.

In 1991, nearly half the Nation's population engaged in some sort of form of wildlife-related recreational activity, spending $59 billion on those activities. Recreational fishing alone generated $69 billion in revenues and supported 1.3 million jobs.

Our natural resources must be protected and restored. Those harming or destroying them by disposing of the hazardous waste into the environment must be responsible for those actions and required to restore those natural resources they have degraded.

Thank you very much, Mr. Chairman. And I will be happy to answer any questions.

[The prepared statement and attachments of Douglas K. Hall follow:]

PREPARED STATEMENT OF DOUGLAS K. HALL, ASSISTANT SECRETARY FOR OCEANS AND ATMOSPHERE, NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION, U.S. DEPARTMENT OF COMMERCE

Good afternoon, Mr. Chairman and Members of the Subcommittee. My name is Doug Hall and I am the Assistant Secretary for Oceans and Atmosphere, National Oceanic and Atmospheric Administration (NOAA). Thank you for inviting me to speak with you today about the work of Federal natural resource trustees under the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA or "Superfund"). I am here to explain our efforts to restore natural resources that have been injured by releases of hazardous substances, and to seek this Committee's support in maintaining the ability of Federal, state and tribal trustees to protect natural resources from harm and to ensure that the American public is made whole for injuries to public trust resources.

It is my privilege to represent the three primary Federal natural resource trustees: the Department of the Interior (DOI), the United States Department of Agriculture (USDA) and, my own agency, NOAA. A representative of the Department of the Interior joins me today to demonstrate the great pride we take in administering a program so vital to this Nation's health and economic vitality.

The other Federal natural resource trustees are the Department of Defense (DOD) and the Department of Energy (DOE). We work closely with each other and with states and tribes to protect and restore this Nation's natural resource treasures to which all Americans are heir.

In recent statements to the Senate Subcommittee on Commerce, Trade and Hazardous Materials, the National Association of Attorneys General and the Association of State and Territorial Solid Waste Management Officials expressed strong support for Federal, state and tribal natural resource restoration efforts under CERCLA. Environmental groups, including the Natural Resources Defense Council, the National Wildlife Federation, the Environmental Defense Fund and the wilderness Society, have registered similar support for these efforts. In addition, representatives from several industry groups with whom I recently met affirmed support for the restoration of injured natural resources.

At this time I would like to ask that my written testimony be submitted for the record in its entirety.

STEWARDSHIP OF THE NATION'S NATURAL RESOURCES

The Federal trustees share stewardship responsibilities with the states and tribes for a rich and varied natural resource inheritance. These resources are not owned by any private individual; rather, they are held in trust for the American public. Trustees serve as stewards on behalf of the public for the Nation's natural resources, including fish and wildlife, public lands and public waters. The three primary Federal trustees are resource management agencies charged with ensuring the conservation, protection and sustained use of public trust resources.

NOAA is the principal Federal trustee for marine and coastal resources, including marine mammals, and all commercially and recreationally important fish species and their supporting habitats. NOAA's trusteeship extends as far inland as streams in Idaho where salmon spawn, to ocean waters where tuna, halibut and other valuable fish stocks are found. NOAA is also a trustee for all resources of National Marine Sanctuaries and Estuarine Research Reserves.

DOI is the primary trustee for anadromous and certain other fishes, migratory birds and endangered species, and their supporting habitats throughout the country, as well as for natural resources in National Parks, National Wildlife Refuges, and lands and resources managed by the Bureau of Land Management, the Bureau of Reclamation and other DOI Bureaus.

The USDA has trusteeship over all lands managed by the Forest Service, and over the plants and animals that inhabit those lands. Similarly, DOD and DOE are also natural resource trustees with stewardship responsibilities for all lands under their management and over the plants and animals that inhabit those lands.

A VALUABLE LEGACY

The natural resources managed by the federal trustees and the state and tribal trustees are the source of much of this Nation's greatness, and are integral to our national identity. Recognizing the close link between economic strength and healthy natural resources, this Administration has made both economic development and environmental stewardship key priorities. Today's investment in restoration of injured resources will be returned many-fold in recreational and economic benefits tomorrow and for generations to come.

Americans have always relied heavily on our natural resources for their livelihood, recreation and quality of life. Commercial fisheries annually produce $2 billion in revenue to fishermen and generate $25 billion in related economic activity. The National Survey on Fishing, Hunting, and Wildlife-Associated Recreation reveals that in 1991, over 109 million Americans—more than half the population over 15 years of age—engaged in some form of wildlife-related recreational activity, such as hunting, fishing or wildlife viewing. Participants spent over $59 billion in the U.S. retail sector on these activities, which supported in excess of two million full- and part-time jobs and generated total economic activity in excess of $120 billion. For example,

- 36 million recreational anglers fished over 500 million days in 1991, spending $24 billion on their activities;
- More than 14 million hunters spent over 235 million days hunting deer, migratory birds, and other animals, spending over $12 billion on their activities; and
- More than 75 million people participated in wildlife-viewing, including birdwatching, spending a total of $18 million on their activities.

The total economic effect in 1991 from all hunting activities in the United States, including deer and migratory bird hunting, was estimated at about $35.1 billion,

supporting a total of 410,900 hunting-related jobs. Also, over 268 million visits were made to the National Parks last year, with local expenditures related to these visits exceeding $10 billion. At National Forests, 1994 visits totaled 835 million, producing revenues of $6.8 billion for local economies.

The natural resource damage provisions of CERCLA are an important tool to address the hazardous waste contamination that threatens this legacy. Natural resource damages have been the subject of some controversy during the last few years—controversy that results, I believe, from a fundamental misunderstanding of the natural resource damage provisions of CERCLA. Controversy also has been generated by misinformation regarding the significance of existing natural resource injuries and how the federal natural resource trustees implement their responsibilities under CERCLA.

Today, I hope to dispel some of these "myths" with a brief look at the problems Congress sought to redress through the natural resource damage provisions of CERCLA and the natural resource injuries existing today that trustees must address to fulfill our stewardship responsibility to the Nation. Further, I will describe some of the principles that guide our program and the steps we have taken to fulfill the promise that Congress made to the American public when the natural resource damage provisions of CERCLA were first drafted—the promise that healthy and productive natural resources will be available today and for future generations. I look forward to continuing the work began by the Reagan and Bush Administrations to ensure that this Nation's natural resource heritage is passed on.

CONGRESS ENACTS CERCLA

CERCLA was enacted by Congress in 1980 to address the aftermath of hazardous contamination resulting from harmful waste disposal practices, such as Love Canal and the Valley of the Drums. Congress recognized that polluters, and not the American public, should pay the full cost of harmful waste disposal practices and that existing authorities were inadequate. Fifteen years ago, reports prepared by the Library of Congress concluded that:

- harm to natural resources in the United States by toxic chemicals is substantial and enduring;
- the toxic contamination of this Nation's waterways, Great Lakes and ocean areas had dealt a severe blow to the commercial and sport fishing industries dependent upon healthy and productive ecosystems; and
- existing law failed to provide an efficient, effective or predictable mechanism for recovering compensation.

In response to these and other findings, Congress enacted CERCLA to serve two purposes. First, to protect human health and the environment by authorizing the Environmental Protection Agency (EPA) to clean up abandoned waste disposal sites and address uncontrolled releases of hazardous substances. Second, to protect and restore injured natural resources through provisions administered by the natural resource trustees.

CERCLA explicitly acknowledges that natural resources are held in trust for the public, and that those who have degraded natural resources through harmful production and waste disposal practices rob the public of the chance to use and enjoy them. The statute provides a means for responsible parties to be held accountable for restoring, replacing or acquiring the equivalent of natural resources injured or lost as a result of their actions. The statute also recognizes that natural resource management agencies have special expertise in evaluating threats to natural resources and addressing natural resource injuries. The natural resource provisions of CERCLA enable the trustees to apply their expertise to evaluate risk and injury to natural resources and ensure their restoration. The coordination, assessment and restoration provisions of CERCLA are the only effective tools available to natural resource managers to address the effects of the hazardous contamination of resources. Preservation of these tools is essential if the trustees are to carry out their stewardship responsibilities on behalf of the American people.

THE LINGERING IMPACT OF HAZARDOUS SUBSTANCES

After 15 years of work, I am pleased to report that we have made substantial progress in addressing hazardous waste contamination of the Nation's natural resources and in correcting the problems first outlined by the Library of Congress. Nevertheless, there is more work to do. Hazardous waste contamination continues to degrade, and in some cases has destroyed, wetlands and other critical habitat—with corresponding effects on the health of entire ecosystems, including recreational and commercial fish stocks. In 1992, at least 45 states had warnings in effect

against consumption of various species of fish or wildlife due to contamination by hazardous substances.

We are still learning about the effects that hazardous substances are having on natural resources—effects that in some cases can be devastating. The following three examples help illustrate this point.

Montrose: At the Montrose site in Southern California, 2,000 metric tons of DDT and PCBs were discharged into the ocean over a period of 35 years. Studies estimate that the layer of contaminated sediments covers an area of more than 15 square miles up to two feet in thickness. These contaminants pose significant risks to human health and harm to natural resources. Recent studies link DDT and related contaminants with cancers, reproductive failure, and other abnormalities in animals and humans. For example, bald eagles and peregrine falcons in the area are all highly contaminated and are failing to reproduce. Contaminated fish in the area produce fewer eggs with reduced hatching of viable young. Commercial fishermen suffered losses from the State of California's closure of the fishery. Further, low-income communities in the Los Angeles area continue to catch and consume fish contaminated with DDT due to widespread subsistence fishing. Unless steps are taken to remove or contain these contaminants, they will likely persist for at least the next 100 years. In fact, our studies show that these deposits are likely to erode over the next 20 years, subjecting biological organisms to increasing contaminant exposure.

Bunker Hill: At inland sites, such as Bunker Hill in Coeur d'Alene, Idaho, we are striving to address continuing injuries caused by decades of hazardous releases from several hundred mining sites and two major smelters that have contaminated miles of rivers, wetlands and flood plain and the sediments of Lake Coeur d'Alene. The trustees estimate that over 70 million tons of mine tailings laced with toxic metals such as lead, zinc and cadmium have been released into the waterways of the Coeur d'Alene River basin. Many areas are almost completely devoid of vegetation and aquatic life. Portions of the Coeur d'Alene Indian reservation are also severely affected. Important sport fish, such as brown trout, have been eliminated from miles of their natural habitat. Every year migrating tundra swans die painful and gruesome deaths from ingesting contaminated sediments.

LCP Chemical: In Georgia, the Federal trustees and EPA are just starting to evaluate natural resource and human health concerns at the LCP Chemical site. The site is extensively contaminated with mercury, PCBs and polynucleararomatic hydrocarbons. The site and the affected watershed, which extends into a nearby river, provide valuable habitat for migratory birds, finfish, blue crab, oysters, shrimp, sea turtles, dolphins, manatees, bald eagles and alligators. Commercial fisheries for blue crab and shrimp have been closed and advisories against consuming recreationally caught finfish have been posted. High contaminant concentrations in important wetland habitats appear to be a long-term, persistent source of contamination and threaten the health of this coastal ecosystem. During a recent public hearing in Brunswick, Georgia, held by Congressman Jack Kingston, citizens from the surrounding community voiced grave concerns about the site and its effects on their health and livelihoods.

The natural resource provisions of CERCLA remain the only tool available to natural resource managers to address the extensive problems at these and other sites. Furthermore, this tool is unique in its focus. The natural resource provisions of CERCLA were designed simply to make the public whole—nothing more, nothing less.

Funds recovered by the trustees are not placed in the general Treasury or used to expand the bureaucracy. Rather, they are applied to the restoration of the injured resources.

Further, there are significant differences between EPA's cleanup authorities under CERCLA and the natural resource damage authority. First, unlike EPA, the trustees have no authority to order potentially responsible parties (PRPs) to act, nor do they have direct access to the Superfund to fund damage assessment activities. Therefore, trustees rely on appropriated funds to document injury and plan restoration. Further, the trustees may only obtain reimbursement for assessment costs that they can prove are reasonable.

Second, liability for natural resource damages is retroactive only where either the release of a hazardous substance or the damage it caused continues post 1980. Finally, unlike the remedial process, the trustees must establish injury in order to bring a claim for natural resource damages.

THE FEDERAL NATURAL RESOURCE RESTORATION PROGRAM

The goal of the natural resource restoration program is clear—protection and restoration of injured public trust resources for the use and benefit of future generations. The Federal trustees are guided by four major principles in meeting this goal: (1) integration of natural resource concerns into the remedial process to the fullest extent possible; (2) implementation of cost-effective restoration of ecological functions and human uses; (3) facilitation of trustee and PRP coordination to prevent duplication of effort; and (4) ongoing efforts to evaluate and improve the program.

1. Toward the successful integration of natural resource concerns into the remedial process

We are successfully working with EPA during the remedial process at National Priorities List (NPL) sites to resolve natural resource concerns in a cost-effective way. Through NOAA's Coastal Resource Coordination Program and DOI's work with EPA Biological Technical Assistance Work Groups and interagency agreements, the trustee agencies work together with EPA and the states to assess ecological risk and achieve protective cleanups that address both natural resource and human health concerns, and reduce residual or future natural resource injuries. Based upon information compiled by the Department of Justice and the trustee agencies, we estimate that fewer than five percent of the sites on the NPL have required separate compensation to the trustees for natural resource injuries. The trustees estimate that this compensation currently represents less than one percent of the total remedial costs involved at those sites.

An excellent example of this cooperation is our current work in Lavaca Bay. Located off the central coast of Texas, Lavaca Bay is an extremely productive estuarine area supporting commercial and recreational fisheries. However, due to the discharges of mercury-laden wastewater resulting in the contamination of the sediments in Lavaca Bay, the State health department issued fish consumption advisories in the 1970s. The mercury advisories remained in effect until 1988 when the area was closed indefinitely to the harvesting of crabs and finfish because of high mercury levels. However, local citizens still use this area for subsistence fishing and are at risk. Because mercury does not degrade, it remains available to the biota in the Lavaca Bay system and will continue to be available until it can be removed or isolated. To address cleanup and natural resource concerns, the Federal and state trustees and EPA entered into a Memorandum of Understanding (MOU) which has been heralded by EPA Region VI as a model of effective interagency cooperation. Pursuant to this MOU, trustees continue to provide EPA with critical technical support on appropriate risk assessment and protective cleanup actions that will reduce ongoing injury at the site.

The remedial activity at the Strandley Manning site adjacent to Puget Sound in Washington is another example of the benefits of cooperative and efficient integration of natural resource concerns early in the process. At this site, the sediments of a small stream that flows into a salt marsh have been contaminated with PCBs from a transformer salvaging operation. The responsible party has worked cooperatively with EPA, NOAA, and other trustee agencies to evaluate the problems caused by the contamination. They have agreed that contaminated sediment will be removed and the stream will be restored to productive trout habitat. This restoration will include replacing stream gravels, placing structures in the stream to stabilize the channel and provide pools for sheltering fish, and planting riparian vegetation. Because this work is being conducted cooperatively, funds can be used efficiently and directly on cleanup and restoration efforts.

Coordination during the remedial process is good for the environment because it allows natural resource concerns to be addressed early in the process through more efficient, cost-effective assessments and it facilitates more immediate restoration efforts. The approach is also good for government and PRPs because, by avoiding litigation, it lowers transaction costs for everyone.

2. Cost-effective restoration of ecological functions and human uses

The Federal trustees seek cost-effective restoration of the ecological functions and human services of injured public trust resources. Industry, state and tribal trustees, and environmental groups have all registered support for this goal. As discussed previously, by working with the EPA remedial process, the trustees can help ensure that cleanups are adequately protective. In most cases, implementation of EPA's remedy may be sufficient to ensure that natural resource concerns are resolved. However, at those sites where EPA has not taken action or where residual injuries are ongoing, additional restoration actions may be required to ensure that the public is made whole through direct restoration of injured resources and compensation for the loss of the resources pending recovery from injury.

The process of determining appropriate compensation for public loss of resources is known as "natural resource damage assessment." In natural resource damage assessment, trustees answer three basic questions:

First: Have public trust resources been injured by a hazardous substance?

Second: What is the best way to restore the resources?

Third: How do we compensate the public for interim losses which occur from the time of injury until restoration is accomplished.

In addressing the first question, trustees must demonstrate an adverse effect or injury to a resource and that the injury resulted from the hazardous substance release. Neither the mere presence of a hazardous substance nor simple exposure of a resource to a hazardous substance is enough.

In addressing the second question, I use the term "restore" as shorthand for any method of returning the resource to the condition it would have been had the release not occurred. This does not involve the replacement of every blade of grass and every bird and fish. Instead, trustees look at the ecological functions that the injured resources would have provided, such food sources, nursery and spawning habitat, and other functions such as recreational or commercial use, or flood control. In considering restoration options, the trustees take into account changes in the resources that would have occurred in the absence of the hazardous substance release.

For example, at the Blackbird Mine site in Idaho, chinook salmon, a severely diminished species, were totally eliminated from Panther Creek, a tributary of the Salmon River, by acid mine drainage. However, the salmon population in the entire Columbia River basin has declined as a result of other factors unrelated to the acid mine drainage. Therefore, although historical runs in Panther Creek were between 2,000 and 3,000 adult fish, the trustees have determined because of the decline in stocks throughout the watershed that numbers of fish found in Panther Creek without the effect of acid mine drainage would be only about 200 adult salmon migrating back to Panther Creek each year. Providing these 200 fish is an essential first step in the restoration of this endangered fish stock. Restoration of the salmon will be accomplished through restoring water quality in the creek and reseeding the watershed with carefully selected wild stock from nearby areas.

Another example is the Exxon Bayway oil spill. In January 1990, approximately 567,000 gallons of heating oil were discharged into the Arthur Kill from a ruptured pipeline. The oil adversely impacted an area previously degraded due to several prior oil spills. In addition, industrial uses in the surrounding area make it very likely that the impacted area will be affected by future spills. Consequently, rather than attempting to restore the spill site to some unrealistic prevent condition, the trustees have focused restoration efforts off-site with the objective of enhancing the overall productivity of the bay for impacted trust resources to compensate for productivity losses in the degraded area.

In making restoration decisions the trustees evaluate the ability of an injured resource to recover on its own. In some instances, the best method for restoration of a contaminated site may be to allow natural recovery. Compensation for losses is achieved through the use of funds recovered from responsible parties to acquire or restore natural resources at other sites within the watershed. These actions provide similar natural resource services during the natural recovery period of the impacted area. If trustees determine that available restoration technologies and approaches will be more productive than natural recovery processes, or if human intervention is likely to shorten the time period required for natural recovery, trustees will select and implement the most cost-effective strategy to facilitate recovery from injury.

Not only is consideration of the public's interim losses crucial in selecting a restoration method, but once a restoration method is selected, compensation for losses pending implementation may be needed to make the public whole. Between the onset of injury and the completion of restoration, the public may incur losses from the interim inability to use the resources. The third question the trustees ask during the damage assessment process is how to compensate the public for these interim losses. An analogy to a common occurrence may make this concept more easily understood: if another driver collides with your car, you would want compensation not only for the cost of repairing your car but also for the cost of renting another car while your car is being fixed. And if you are injured in the accident, you would want compensation not only for medical expenses but also for lost earnings while you are unable to work.

The same concept applies here. After a spill or release, fishing, hunting, and bird-watching may be reduced; beaches and parks may be closed. The effects of these interim losses can be significant, especially if the injured resources are unique, injury's widespread, or the recovery period is lengthy. Communities that rely on natural resources for their livelihood and recreation may be seriously affected. These interim losses must be considered if appropriate restoration decisions are to be made.

For example, if a fishery is seriously depleted by a chemical spill, it might recover naturally in a few years; however, the public fishing losses during those years might exceed the cost of restocking today. Therefore, restocking now would lower the total costs of the spill to the public and the spiller. The sums recovered for such interim losses, like all natural resource damage recoveries, are invested in the resources. Trustees may use these recoveries to provide compensatory replacement resources through enhancing or creating habitat or improving access to resources.

For example, the state and Federal natural resource trustees chose natural recovery as the primary restoration option for the *Presidente Rivera* oil spill near Marcus Hook, Pennsylvania in 1989. Nevertheless, the public suffered real losses due to the interim unavailability of the resources. Hunters and birdwatchers were affected by reduced populations of waterfowl, shorebirds and seabirds. Boaters and beach users were affected by closures. The trustees recovered sums to compensate for those losses, and the recovered money is now being used to enhance degraded wetlands, thereby increasing the fish and bird populations available to fishermen, hunters and birdwatchers.

3. Trustee and responsible party coordination

At any given site, multiple trustees may be involved. The Federal trustees support active and early coordination with state and tribal trustees in resolving natural resource injuries of mutual concern. Since CERCLA explicitly bars double recovery of natural resource damages, trustees must coordinate their efforts.

Our focus is on restoring the resources rather than fighting over whose resources they are, as demonstrated through the cooperative processes at Blackbird Mine and at Lavaca Bay.

Federal trustees also are coming up with new and innovative ways to work cooperatively with PRPs. Negotiated settlements can save time and money—resources that are better spent on pursing restoration rather than litigation. When trustees and PRPs work cooperatively, information and expertise can be shared, enabling trustees to make more fully informed decisions. Also, settlements may be negotiated that allow PRPs to perform restoration under trustee supervision, which can improve cost-effectiveness.

The Commencement Bay waste site provides an excellent example of effective coordination among natural resource trustees, EPA and PRPs. All of the assessment and negotiation activities by each of the Federal, state and tribal trustees are carefully coordinated under the terms of a Memorandum of Agreement established among the trustees. Trustees have entered into funding and participation agreements with several PRPs for preliminary damage assessment activities and are attempting to negotiate for continued participation by PRPs in the next phase of the damage assessment. The Commencement Bay trustees also coordinate closely with EPA at the Commencement Bay site to ensure that site characterization and risk assessment studies address natural resource concerns, and to develop protective remedies that reduce injury. Close coordination with EPA also ensures that damage assessment studies provide necessary information without duplicating remedial design efforts.

Effective cooperation between the PRPs and the trustees is ongoing in response to an April 1992 release of about 45 million gallons of a phosphoric acid/hydrated gypsum mixture from a settling pond at the Mobil Mining and Mineral Company fertilizer facility in Pasadena, Texas. The event released a wave of acidic water that flowed across a moat, a pipeline and railroad rights-of-way, through a series of drainage canals and into a small bayou and the Houston ship channel, killing fish and destroying wetland habitat. Shortly after the incident, Mobil expressed willingness to resolve its natural resource damage liability through implementation of appropriate restoration activities. Mobil and the state and Federal trustees are working together to identify suitable restoration projects to redress the injured trust resources. While the settlement is not complete, proposals under consideration include creation of more than 30 acres of freshwater and saltwater marsh that will be constructed by the responsible party with trustee oversight.

4. Improving the program for everyone

The Federal natural resource restoration program has demonstrated that small investments in restoring injured natural resources can yield big returns in environmental and economic health for our Nation. Further, as previously stated, although we have made progress in addressing hazardous waste contamination in this country, pernicious injuries to public trust resources persist. To this end, the Administration continues to support retention of the polluter pays principle including retroactive liability for natural resources. This principle has provided incentives for industry to reform waste handling practices to avoid liability. Proposals advanced by

a few industry-led coalitions to eliminate retroactive liability for natural resource damages would make it impossible for the trustees to address significant ongoing harm to natural resources and to perform their trust responsibilities.

Recognizing the importance of our mission, the trustees remain committed to implementing program improvements in addition to fostering more effective coordination among trustees, EPA and PRPs early in the remedial process, streamlining of the natural resource damage process and providing more timely and certain resolution of natural resource damage liability.

Many of the concerns voiced regarding the natural resource restoration program could be resolved by addressing uncertainty concerning the current statute of limitations. To ensure that public rights are protected, this uncertainty has often compelled the trustees to file litigation prematurely, before restoration planning has been completed and restoration costs are fully known. Clarification of the limitation period would avoid this result.

We are currently examining administrative changes that could be made to further the goals of the program. DOI has issued regulations to guide trustees in performing damage assessments under CERCLA and, as part of a comprehensive review process, is eager to work with other trustees, industry and environmental groups to improve them. NOAA proposed natural resource damage assessment regulations to be used under the Oil Pollution Act in January 1994 and is considering redrafting all or part of the regulations based upon the comments received during an extensive comment period.

The current statute provides important incentives to potentially responsible parties, both to avoid causing further harm from hazardous substance releases and to provide the means to ensure that the public is compensated for injury resulting from releases. We have learned, as Federal trustees, that restoring the Nation's natural resources is most successful when carried out through close coordination among all interested parties. There are many benefits to resolving natural resource liability cooperatively, including the acceleration of activities that improve environmental quality and in turn, the economic health of the Nation. To that end, we intend to reach out to the various stakeholders in the next few months to continue a dialogue to improve the process of restoration of our natural resources.

This concludes my prepared statement. Mr. Chairman, on May 2, 1995 I forwarded to you and the other Members of this Committee a letter in response to your request for additional information on the Federal natural resource restoration program. I ask that this letter now be made a part of the record. Additionally, I ask that my June 2, 1995 letter to the Senate Subcommittee on Superfund, Waste Control and Risk Assessment in follow up to my testimony before that Committee and my June 5, 1995 answers in response to questions from Senator Chafee also be admitted into the record. Once again, I would like to thank the Committee for the opportunity to testify on CERCLA reauthorization. We would be happy to answer any questions that you may have.

DEPARTMENT OF COMMERCE,
ASSISTANT SECRETARY FOR OCEANS AND ATMOSPHERE,
Washington, DC, May 2, 1995.

HON. MICHAEL G. OXLEY
Chairman, Subcommittee on Commerce, Trade and Hazardous Materials
Committee on Commerce
Washington, DC

DEAR MR. CHAIRMAN: The Department of the Interior (DOI) and the National Oceanic and Atmospheric Administration (NOAA) would like to thank you for the opportunity to meet with you to discuss the federal natural resource trustee program, as implemented under the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA). The Administration looks forward to working with your subcommittee during the reauthorization of CERCLA.

The goal of the Federal natural resource trustee program under CERCLA is to ensure that the Nation's valuable public trust inheritance is passed on for the use and benefit of future generations. Under the statute, natural resource trustees include not only Federal agencies like DOI and NOAA but also the states and Indian Tribes, all of whom act as stewards of natural resources on behalf of the public.

These natural resources play a significant role in many communities affected by releases of hazardous substances. They are essential to the hunting and fishing that sustain some local economies and the quality of life in many communities. Consequently, the Natural Resource Damage (NRD) provisions of CERCLA are important to the future of many communities and particular industries. Commercial fish-

ermen are depending on the collective efforts of NOAA, DOI and the State of California to restore sediment in the Montrose open-water DDT site off southern California. Additionally, they are looking to NOAA to restore fish habitat in Panther Creek at the Blackbird mine sit in Idaho. Small businesses like charter boat operators and marinas in Tacoma, Washington, are depending on DOI, NOAA, and the State of Washington to revitalize the commercial and recreational fishing industry in Commencement Bay. Subsistence fisherman are also depending on these efforts. Entire communities—like Anaconda, Montana—whose State government is pursuing natural resource damage claims to restore natural resources in the Clark, Fork River Basin, are depending on restoration of resources that are essential to the angling and tourist trade that depends on those resources, and more fundamentally, to the way of life in that community.

Accordingly, the Administration strongly supports the natural resource damage programs administered by Federal state, and tribal trustees under CERCLA. The Administration has strongly opposed proposals, like those seen in the last Congress, that would make it impossible for the trustees to replace or restore injured natural resources. Many of those proposals were premised on a fundamental misunderstanding of the statute and its administration by the trustees. Nonetheless, we appreciate concerns by industry that there may be ways to improve the NRD program and the underlying statutory provisions. We hope to initiate a dialogue both with your respective staffs and with affected parties so that we may identify the concerns underlying these proposals and, where possible, identify mutually acceptable solutions for Congress to consider.

As you requested, we are providing additional information to respond to specific contentions that were presented by industry in the course of the meeting.

RETROACTIVE LIABILITY

Subsequent to our meeting, Administrator Carol Browner testified before each of your respective subcommittees and reiterated the Administration's position that the "polluter pays" principle, and retroactive liability in particular, is not unfair. As the Administrator made clear, this principle encourages responsible parties to clean up hazardous waste sites they created and restore or replace natural resources they have injured, promotes proper waste handling, and furthers protection of natural resources. In its most essential respect, this provision reflects a judgment that those who pollute—rather than the American taxpayer—should pay to clean up that pollution.

In the case of NRD liability, there are three additional considerations supporting the "polluter pays" principle under CERCLA. First, current law prohibits the use of Superfund monies to perform natural resource damage assessments or to fund restoration or replacement of natural resources. Thus, any diminution of the polluter pays principle will mean not merely a shifting of the polluter's responsibility to taxpayers, as is true for EPA's remedial program, but the elimination altogether of any funding for Federal, state, and tribal trustees' NRD programs. As you recall, all of those present at our meeting, including industry, supported appropriate restoration of injured natural resources. Elimination of retroactive liability for NRD, leaving the states and Indian tribes with a completely unfunded task of restoration at their sites, and the Federal trustees with no prospect of sufficient appropriations, simply cannot be squared with that common goal.

Second, retroactive liability for NRD already is more limited than liability for costs of remedial and other response actions under CERCLA, because liability is imposed only where both the release and the damage caused by the release did not occur "wholly before 1980." Thus, a release of hazardous substances prior to 1980 that did not cause continuing damage to natural resources after 1980 does not give rise to liability under the statute. Further, courts have held that where resource damages are readily divisible, trustees cannot recover, for that part of the damage that was incurred prior to enactment of CERCLA in 1980. Thus, liability for NRD is more limited than for remediation and other response costs.

In this regard, we think it is important to respond to the assertion that the language barring recovery where both release and natural resource damage occurred "wholly before 1980" suggests that Congress "never intended" to impose retroactive liability for NRD. We believe that the meaning of this is clear on its face: Congress intended to impose liability wherever damage continued to occur after 1980, and to provide an exemption for those sites that are not the source of continuing harm. This reading of the statutory language has been endorsed by every court to have considered the issue, and reflect what we regard as the proper policy of ensuring relief for those communities and regions whose economic and ecological health is threatened by continuing damage to natural resources.

Third, CERCLA also provides a $50 million limitation on liability—whether retroactive or not—where injury to natural resources results from a single incident. Thus, the maximum liability from a single catastrophic event—like a tanker spill of a hazardous substance or a single act of disposal—is ascertainable and certain. Where damage results from repeated incidents where each incident involves a release, such as continued and deliberate disposal over periods of years, there are multiple releases causing damages and the law properly permits a greater recovery, as courts have found. We also note that this $50 million figure was adopted in 1980, and would exceed $90 million if the statute were updated to account for intervening inflation.

LIMITATIONS ON THE NRD PROGRAM

Further tempering the impact of NRD liability are a number of significant statutory and practical constraints that CERCLA imposes on the trustees. These belie representations by industry representatives at our meeting that the NRD program is a "sleeping giant." Initially, the trustees must establish injury to natural resources in order to establish liability. A release that does not result in injury to natural resources does not give rise to NRD liability.

Even where a release results in injury, the trustees' ability to bring claims is severely limited. As discussed above, the law does not permit use of the Superfund for damage assessments or restoration, and trustee appropriations for damage assessment (funds appropriated to the agencies have never been used for restoration) have been sufficient for only a very limited number of sites, such that NOAA and Interior must focus their attention on sites of national significance with the greatest impact on the economy and the environment.

In addition, the need to pursue liability for NRD arises only at those facilities where a remedial action has not been taken that will be sufficient to address injury to natural resources. These facilities are the exception rather than the rule, because the trustees are successfully working with EPA to make sure that restoration concerns are addressed through the remedial cleanup, where appropriate. Less than five percent of the sites on the National Priorities List (NPL) have required compensation for natural resources injuries in addition to compensation for EPA's response activities. The trustees currently estimate that compensation for residual natural resource injuries at all NPL remedial sites to date has been less than one percent of the total remedial costs involved at the sites. At the limited number of non-NPL sites where Federal trustees have filed claims, NRD claims tend to be higher because the trustees often must undertake source-control and remedial measures that would typically be part of the remedy at an NPL site.

MAKING RESOURCE VALUATION REASONABLE

In the course of our meeting, a number of issues were raised concerning how the trustees evaluate natural resource damage. The most significant of these concerned recovery of passive use values and the use of contingent valuation methodology (CVM) to determine those values.

In general, we would like to emphasize that the purpose of NRD recovery is to restore the injured natural resource, and with it the health of the surrounding economy and the environment. The statute requires that all NRD recoveries be used to restore, replace, or acquire the equivalent of the injured natural resource.

In meeting this mandate, the Administration generally has sought recovery of all values associated with injury to the Nation's public trust resources. These damages may include significant economic values as a result of the interim loss of the resource prior to restoration, and may include both the values of the public's direct use of the resource, such as hunting or fishing, and passive use values, such as the value of ensuring that the resources will be available for future generations. Indeed, in recognition that such losses are significant, the United States Court of Appeals for the District of Columbia Circuit has ordered the DOI to revise its NRD assessment regulations to allow for the recovery of all lost interim-values, including passive use values to the extent these can be reliably calculated. *Ohio* v. *Department of Interior,* 880 F.2d 432; 464 (D.C. Cir. 1989). These regulations are being revised accordingly.

Recovery of such interim losses, including passive use values, is not punitive, but compensatory. The recovery of such losses compensates communities for their actual losses, losses that can be significant if the injured resources are unique or time-consuming to restore. These recoveries can be used to improve the public's access to substitute resources pending restoration, for example if a lake is affected, a temporary boat ramp could be installed in another lake. At least one Federal court has implied that NRD recoveries should not be grossly disproportionate to the total loss

to the public from the injury. Thus trustees should consider all lost values if they are to make proper judgments concerning recovery of restoration costs.

Our meeting raised certain challenges to both the validity of claims for loss of passive use generally, and to the use of CVM in particular as a methodology by which certain passive use values may be measured reliably. These are matters that the trustees have examined closely. In order to have independent scrutiny of these challenges, NOAA convened a panel of experts, co-chaired by two Nobel laureates, who were asked to consider the issue of CVM. In their report, the panel stated that passive use values have been recognized by economists for decades. The panel concluded that, provided care is taken to ensure that CVM methodology is sound, it can provide estimates reliable enough for use as a benchmark to begin to determine these values.

The Administration is committed to responsible use of CVM, and is currently engaged in a regulatory process—pursuant to CERCLA and the Oil Pollution Act—to identify a sound CVM methodology and to ensure that CVM is used only in appropriate circumstances. This administrative process has been informed by the report of the NOAA-sponsored panel and by an extensive administrative record. The trustees will provide these regulations to the subcommittees as soon as they are completed.

Industry has regarded this regulatory process as significant because, as you know, CERCLA provides a "rebuttable presumption" of validity for trustee damage assessments. But this presumption attaches only where the trustee establishes that the assessment was done in accordance with the NRD regulations. As expressed in our meeting, industry concern about this "rebuttable presumption" appears to us quite overstated. The presumption can be challenged at the outset by a claim that the trustee failed to adhere to the regulations. Where the regulations have been followed, the presumption is not conclusive or absolute, but merely shifts to responsible parties the burden of presetting evidence that persuades the trier of fact that the presumption has been rebutted. The open nature of the assessment process and the opportunities for public comment it provides afford significant opportunities for scrutiny of the Government's evidence in advance of trial.

And there are further constraints that strengthen the hand of responsible parties when NRD claims may involve passive use values. First, CVM is expensive and time-consuming, and therefore generally will only be used in cases of catastrophic or near-catastrophic loss, like the EXXON VALDEZ case under the Clean Water Act. For this reason, Federal trustees have used CVM only rarely, and have completed a CVM study in only one CERCLA case. Second, any particular standard must satisfy not only the regulations, but the standards for reliability of scientific evidence imposed by the courts under the Federal Rules of Evidence. Once these standards have been satisfied, of course, responsible parties are free to challenge the merits of the CVM before the trier of fact.

REASONABLE AND COST-EFFECTIVE RESTORATION DECISIONS

We were confronted during our meeting with assertions that restoration decisions are not cost-effective, and that the trustees seek to restore sites to pristine conditions that would never have existed, even if there had not been a release of hazardous substances. We believe these assertions are not accurate.

DOI's CERCLA regulations clearly provide that in considering and selecting among restoration alternatives, the trustees are not required to select a particular restoration approach but should evaluate the cost-effectiveness of their restoration decisions and the relative costs and benefits of each alternative. Furthermore, the regulations provide that natural recovery should always be considered as a viable alternative. Responsible parties also are free, under the regulations, to present their own proposals concerning restoration.

In deciding what the "baseline" is for restoration decisions, trustees do not assume that "pristine" conditions must be achieved, but instead consider both the condition of resources prior to the injury and those changes to the resources that might have occurred in the absence of the release. The pertinent regulations do not authorize restoration to pristine conditions unless that was the baseline. The *Blackbird Mine* case, in which chinook Salmon were totally eliminated from the Panther Creek watershed in the Salmon River system, provides a good example of effective restoration to non-pristine conditions. Historical runs in the Panther Creek watershed have been between 2,000 and 3,000 adult fish. However, in the years since the fish were totally eliminated by uncontrolled acid mine drainage, salmon populations in general have been reduced in the Salmon River basin by dams and other development in the Salmon River system to 15 percent of historical levels. Therefore, the trustee restoration objective with respect to salmon is to restore 200 fish to Panther Creek,

the approximate number that would be there but for the uncontrolled acid mine drainage. Similarly, there are industrial sites like New Bedford Harbor where the trustees are seeking not to restore the conditions which existed prior to development, but rather are focusing their restoration efforts on a finite number of projects to restore those natural resources significant to the ecosystem and the local economy.

COORDINATION WITH NON-FEDERAL TRUSTEES

Some concern was expressed at our meeting about possible overlap or duplication of claims of Federal, state, and tribal trustees. However, CERCLA Section 107(f)(1) prohibits any double recovery of NRD damages, protecting responsible parties from paying for restoration costs more than once and providing a strong incentive for trustees to work cooperatively. DOI's NRD regulations specifically provide for coordination among the trustees. Consequently, in nearly all cases, our damage assessment work is undertaken cooperatively and, in our CERCLA settlements, NRD recoveries are administered jointly by Federal, state, and tribal trustees according to a standard memorandum of agreement.

An excellent example of such a cooperative endeavor is ongoing in Commencement Bay, in Tacoma, Washington. NOAA and the DOI are actively working with the State of Washington, the Muckleshoot Indians and Puyallup Indians to utilize recovered damages to implement a Bay-wide restoration approach involving shallow water habitats. Similar successful cooperation is at work to restore areas of the St. Lawrence River near Massena, New York, where the State of New York and the St. Regis Mohawk tribe are working cooperatively with NOAA and DOI to address PCB contamination. This cooperative effort has included the support of potentially responsible parties, such as General Motors, who are helping to fund assessment work.

IMPROVING THE PROGRAM FOR EVERYONE

Despite the trustees' successes in restoring natural resources, the Administration recognizes that improvements can be made to the NRD program. We are currently examining what changes could be made administratively, consistent with the Vice President's effort to reinvent the Federal Government. We are also receptive to industry's interest, as expressed at our meeting, in streamlining the NRD process, improving coordination among trustees and with EPA, and providing more timely and certain resolution of the scope of potential NRD liability.

Many of these concerns could be addressed by providing more timely and more orderly presentation of claims, and by discouraging premature litigation. For example, uncertainty concerning the current statute of limitations has often compelled the trustees to file litigation prematurely, before restoration planning has been completed and restoration costs are more certain. Clarification of the limitation period would avoid this result, and could be coupled with other proposals to increase certainty and finality, such as provisions to encourage timely assessment, require better coordination among trustees, and refine administration of the restoration planning process. All of this can be achieved without sacrificing the current high level of participation of responsible parties and the affected community in the restoration planning process, consistent with Chairman Smith's emphasis on community participation at his first Superfund hearing.

There may be other proposals that could meet industry concern in a manner that would be entirely consistent with the trustees' goals for the NRD program. In the coming week, and with the assistance of other Federal agencies and the Council on Environmental Quality, we intend to reach out to industry, the states, and the environmental community, in order to continue the dialogue that you initiated in our meeting. We would invite your participation and that of your staff as that process proceeds.

Again, we thank you for your thoughtful effort to initiate discussion of these issues as part of the Superfund reauthorization process. The Office of Management and Budget advises us that there is no objection to this letter from the standpoint of the program of the President.

Sincerely,

DOUGLAS K. HALL, *Assistant Secretary for Oceans and Atmosphere, Department of Commerce.*

BONNIE R. COHEN, *Assistant Secretary, Policy Management and Budget, Department of the Interior.*

cc: The Honorable Michael G. Oxley Chairman, Subcommittee on Commerce, Trade and Hazardous Materials, Committee on Commerce; The Honorable Robert C. Smith, Chairman, Subcommittee on Superfund, Waste Control, and Risk Assessment, Committee on Environment and Public Works; The Honorable John H. Chafee, United States Senate; The Honorable Max Baucus, United States Senate; The Honorable Thomas J. Bliley, House of Representatives; The Honorable John D. Dingell, House of Representatives; Members, Subcommittee on Superfund, Waste Control and Risk Assessment, United States Senate Committee on Environment and Public Works; Members, Subcommittee on Commerce, Trade and Hazardous Materials, House Commerce Committee

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DEPARTMENT OF COMMERCE,
ASSISTANT SECRETARY FOR OCEANS AND ATMOSPHERE,
Washington, DC.

HON. ROBERT C. SMITH
Chairman, Subcommittee on Superfund, Waste Control, and Risk Assessment
Senate Committee on Environment and Public Works
Washington, DC

DEAR SENATOR SMITH: I am writing on behalf of the major federal natural resource trustees, the Department of the Interior (DOI), the Department of Agriculture (USDA), as well as the National Oceanic and Atmospheric Administration of the Department of Commerce (NOAA). The other federal natural resource trustees are the Department of Defense (DOD) and the Department of Energy (DOE). I thank you for the opportunity to present testimony on May 11, 1995 before the Subcommittee on Superfund, Waste Control, and Risk Assessment on the natural resource damages (NRD) provisions of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA).

Through this letter, I seek to supplement the hearing record and clarify a few subjects that came up during the hearing.

Federal and State NRD Recoveries Are Used Exclusively for Restoration. A question was asked during the hearing regarding trustee use of NRD recoveries for restoration activities. The goal of the NRD provisions of CERCLA is to see that injured public trust resources are restored for the use and benefit of the nation. To meet that goal the statute requires federal and state trustees to spend all NRD recoveries on restoring, replacing, or acquiring the equivalent of natural resources injured by hazardous substance contamination. Trustees can also obtain reimbursement of assessment costs which are placed into a revolving fund for use on future assessments. Federal and state trustees do not and cannot divert recoveries to the Treasury or to general agency uses. Indeed, through the use of congressionally approved revolving funds, the federal trustees segregate NRD recoveries from other general agency fund, for use on restoration activities. Pub. L. No. 99-499; Pub. L. No. 102-154. Additionally, the trustees have utilized court registry accounts to hold restoration monies until the recoveries can be directed to addressing natural resource injury.

Further to meet the goal of restoration, the trustees strive to resolve natural resource concerns through negotiated settlements rather than extended litigation. At the vast majority of National Priorities List sites, trustees have successfully resolved natural resource concerns through negotiated settlements. For example, data collected by the General Accounting Office and presented at the May 11 hearing indicate that federal trustees have settled 98 natural resource damage cases, for an estimated total of $106 million. As described in the Administration's testimony, the trustees are currently engaged in restoration planning and implementation at a variety of sites including Exxon Bay Way, New York; Blackbird Mine, Idaho; and Commencement Bay, Washington, yielding major benefits for the nation.

Superfund Monies Are Unavailable for Resource Restoration. Parties affected by Superfund's natural resource damage provisions, including industry proponents of reform, are agreed on the need to restore resources injured by hazardous substance releases. In his testimony before this committee, Kevin McKnight of ALCOA testified that "Alcoa fully accepts and supports the purpose of the NRD program as well as a liability mechanism for achieving that purpose." The use of Superfund monies, however, is generally restricted to response activities, including removal and remedial actions. Current law prohibits the Superfund's use for natural resource damage assessments or resource restoration. See section 517 (a) of the Superfund Amendments and Reauthorization Act of 1986, as amended (SARA), codified at 26 U.S.C. section 9507(c)(1) in the Internal Revenue Code. Consequently, natural resource restoration does not compete for the taxpayer dollars allotted through the Fund for re-

mediation. Instead, trustees look to their own appropriations or to NRD recovered from responsible parties to fund needed restoration of natural resources.

Federal Facilities. There was testimony at the hearing that Superfund liability at federal facilities may be in the hundreds of billions of dollars. This figure refers generally to potential liability for remedial costs at federal facilities under Superfund, not potential liability for natural resource damages. The data collected by the General Accounting Office and presented at the May 11 hearing indicate that it is too early to know the potential numbers and value of natural resource damages at federal facilities. The selection of a cleanup remedy at many facilities is still years away; therefore, the extent of presumed resource damages cannot be estimated. Through the coordinated efforts of the federal natural resource trustees and federal facility representatives, we expect the remedial process at federal facilities to limit or eliminate the potential or significant natural resource damages liability at federal facilities.

We also note that the Administration has convened a process with affected parties to facilitate a dialogue regarding CERCLA's NRD provisions. DOD and DOE will participate in that dialogue in their roles both as operators of federal facilities and as designated natural resource trustees.

Trustee Coordination on Remedy Selection. There was concern voiced at the hearing that coordination problems between DOI and the potentially responsible parties (PRP's) at the Fox River/Green Bay, Wisconsin site was delaying the cleanup of the site. This is not the case. Like other federal trustees, DOI is committed to working with the cleanup agencies and the PRP's in coordinating selected response actions so as to avoid inconsistent remedial and restoration choices at a site. This effort is ongoing and, in fact, DOI has been meeting for some time now with the PRP's to try to formally work out cooperative procedures acceptable to all. As a trustee for federal natural resources, DOI is committed to carrying out its role as a trustee in protecting and restoring natural resources impacted by years of contamination in an important ecosystem.

Again, we appreciate the opportunity to present testimony on the CERCLA natural resource restoration program. Please feel free to contact me or Craig R. O'Connor of my staff if we can provide you with any further information. We ask that a copy of this letter be inserted into the hearing record.

The Office of Management and Budget has advised that there is no objection to the presentation of this report from the standpoint of the Administration's program.

Sincerely,

DOUGLAS K. HALL.

FOLLOW-UP QUESTIONS FOR DOUGLAS K. HALL FROM SENATOR JOHN H. CHAFEE, SUBCOMMITTEE ON SUPERFUND, WASTE CONTROL AND RISK ASSESSMENT, COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS, MAY 11, 1995

Question 1: There has been a considerable amount of discussion surrounding whether the Comprehensive Environmental Response, Compensation, and Liability Act ("CERCLA") should provide an absolute bar to retroactive liability. To an extent, the statute already contains such a bar with respect to natural resource damages. Specifically, 42 U.S.C. section 9607(f)(1) provides that there shall be no recovery of damages from natural resource injuries "where such damages and the release of a hazardous substance from which such damages resulted have occurred wholly before December 11, 1980." Please give the interpretation of this provision the Administration uses in its capacity as a federal trustee in bringing natural resource damage claims. Also, please list a few illustrative instances in which Federal trustees have construed this provision as precluding their ability to seek damages, in whole or in part, for natural resource injuries. Finally, please provide your view on the likely consequences if this provision were amended to allow for recovery of damages only for injuries resulting from releases on or after the date of CERCLA's enactment.

Answer: The federal natural resource trustees interpret the "wholly before" provision based on the plain meaning of the statute as endorsed by the federal courts. The plain language of CERCLA authorizes the trustees to recover for all damages resulting from hazardous substance releases unless both the releases and the damages occurred wholly before and ended before December 11, 1980. See *Aetna Cas. and Sur. Co., Inc.* v. *Pintlar Corp.*, 948 F. 2d 1507 (9th Cir. 1991); *In Re Acushnet River & New Bedford Harbor*, 716 F. Supp. 676 (D. Mass. 1989); *United States* v. *Reilly Tar Chemical Corp.*, 546 F. Supp. 1100 (D. Minn. 1982). Further, where natural resource damages are readily divisible, at least one court has held that trustees are precluded from seeking to recover for damages that occurred prior to 1980. *In Re Acushnet River & New Bedford Harbor*, 716 F. Supp. 676,685 (D. Mass. 1989).

For the most part, the federal trustees have not used this provision that precludes seeking damages because they have focused on bringing cases where injuries are continuing to occur after the enactment of CERCLA and in most instances are continuing to occur at the present time. While there may be hazardous waste sites where it is unclear whether the release and damages ended before the enactment of CERCLA, the federal trustees do not have the resources to focus on those cases. Instead, they must place priority on major cases where injuries are continuing. In any event, at least one court has held that trustees cannot recover divisible pre-1980 damages.

The consequences of amending CERCLA to allow for the recovery of damages only for injuries resulting from releases on or after the date of CERCLA's enactment depends on what is meant by "releases on or after the date of enactment." One interpretation is that trustees could only recover damages if the first release of the contaminant into the environment occurred on or after December 11, 1980. Under this interpretation, the trustees would be unable to recover for any injuries caused by (1) a release occurring wholly before 12/11/80 even though the injuries continued after 12/11/80 or (2) a release beginning before 12/11/80 and continuing after 12/11/80. Either circumstance could result in existing significant natural resource injuries going unaddressed to the detriment of businesses and communities dependent upon those resources.

There is a second interpretation of the revision to the "wholly before" provision. The second interpretation would allow for recovery of only that portion of injuries that can be attributed to those releases starting or continuing on or after 12/11/80. In a continuing release case, the trustees would have to segregate injuries and attempt to assign them to a portion of a release. For example, is a current egg shell thinning problem caused by the ton of DDT released on December 1, 1980 or the ton that was released in March, 1981? In most cases, this level of evidentiary specificity would be difficult if not impossible to achieve. In sum, under both interpretations, like the industry proposal to exempt parties from liability for pre-1980 conduct, significant existing injuries to natural resources would not be addressed, and neither proposal supports the "polluter pays" position which is central to the Administration's position on reauthorization.

Question 2: Based on your experience as a natural resource trustee, is there a need to clarify how or when the three-year statute of limitations period is triggered with respect to a non-National Priority List site natural resource damages claim under CERCLA? If so, please explain how any ambiguity in the current statute either does or could affect the manner in which trustees carry out their necessary functions. Also, please provide any recommendations you may have on how to reduce or eliminate any ambiguity to improve operation of the natural resource damages claims provisions of CERCLA. Finally, please comment on the likely consequences if a proposal were adopted that would trigger the limitations period upon the release of a hazardous substance.

Answer: Yes. As a natural resource trustee, NOAA believes there is a need to clarify the current three-year statute of limitations period for sites not listed on the National Priority List (NPL) or the Federal Agency Hazardous Waste Compliance Docket. A substantial amount of natural resource damage claim litigation to date has centered on the meaning of this statute of limitations, which provides that natural resource damages claims must be brought within "3 years of the later of the following: (A) the date of the discovery of the loss and its connection with the release in question; (B) the date on which final [assessment] regulations are promulgated...." Although several federal district courts have interpreted the provision, the opinions have been conflicting in their interpretation of this provision. No clear rule to date has emerged creating a lack of guidance for the trustees. *United States* v. *City of Seattle,* No. C-90-395 WD (W.D. Wash.); *Gulf Resources & Chemicals; United States. et al* v. *Montrose Chemical Corp.,* et al, CV 90-3122 (C.D. Cal. April 6, 1995), appeal pending, No. 95-80140 (9th Cir. May 22, 1995).

There are at least two significant problems with the current language. First, although certain NRD regulations were originally promulgated in August 1986 and March 1987, the D.C. Circuit overturned key components of those regulations including the measure of damages) and remanded them, leaving the trustees to bring NRD cases without a full set of valid regulatory tools. See *Ohio* v. *DOI,* 880 F.2d at 441-59, 481; *Colorado,* 880 F.2d at 490-91. CERCLA is unclear, however, whether the limitations period should continue to run, even without valid regulatory tools in place. Second, problems associated with defining when "discovery" of the loss occurs have proven to be especially difficult to resolve. Because of the uncertainty surrounding the provision, good government requires that the provision be clarified.

To ensure that important public rights are protected, the trustees have in some instances filed natural resource damages claims before restoration planning has

been completed and restoration costs are more clearly defined, unduly complicating the litigation. Some of these early lawsuits have also occurred before the Environmental Protection Agency (EPA) has decided whether to list the site on the NPL or what degree of cleanup should be performed. This in turn, has hindered effective coordination between the trustees and EPA and state clean-up agencies that occurs every day at NPL sites.

These concerns would not, however, be addressed by a proposal that would eliminate the discovery rule and trigger the limitations period upon the release of a hazardous substance. Because injuries to natural resources associated with release of a contaminant do not necessarily manifest themselves when the release occurs, this provision could force trustees to bring claims prematurely. Trustees would be precluded altogether from bringing significant NRD claims where injuries manifested themselves later than three years after a release.

Question 3: During the hearing, there was discussion about three major categories of values utilized in assessing damages under CERCLA for natural resource injuries: direct use, lost use and non-use. Please provide a working definition for each of these categories, as well as the specific kinds of values and several examples that fit within each. Also state whether any other categories or subcategories of values are used to assess natural resource damages. How do such values reflect and account for harm to ecological functions and systems, notwithstanding the degree of any direct or immediate harm to humans? In particular, please explain how each category reflects and accounts for losses more specific to humans as well as how each reflects and accounts for harm more generally to ecological functions and systems.

Answer: Resource values may be estimated when natural resource trustees determine interim losses. Interim losses are those injuries that occur during the time period from the release of a hazardous substance until the injured resource recovers. There are two major categories of resource values that may be estimated—direct use values and passive use values. "Direct use" value is the economic value derived by individuals who 'interact with the natural resource. Direct use has two subcategories—"consumptive" use such as hunting or fishing and "nonconsumptive" use such as birdwatching, hiking, boating or swimming. "Passive use" value (also called non-use value) is the economic value one attaches to natural resources even though that individual does not directly interact with the resource. Passive use value includes, but is not limited to: knowing the resource is available for use by family, friends, or the general public; protecting the resource for its own sake; and knowing that future generations will be able to use the resource. Subcategories of passive use value include "option;" "existence," and "bequest." Direct use and passive use values together equal the "total value" of "lost use."

Trustees use a variety of methodologies to estimate damages; no single method is appropriate to every situation, and trustees must be able to choose the appropriate method or methods. Some methodologies focus on the value of lost human use. For example, if a hazardous substance spill causes the closure of a fishing stream, a travel cost or recreation demand model may be used to estimate the value of the lost or diminished recreational opportunities. This approach considers the cost of using the substitute resource (i.e., travel time, vehicle expenses) as an indication of the price of the injured resource to the user. The focus of this methodology is lost direct human use of the resource as a result of injury to the ecosystem and does not include other potential values such as lost passive uses. While controversial, carefully constructed contingent valuation (CV) can estimate value based both on direct lost human use and losses to ecological functions and systems. An example would be a hazardous waste release that results in a recreational fishery closure and reproductive impairment to fish and birds. When asked how much they would be willing to pay to restore the injured resources, respondents could consider their lost direct use of the resources if they were recreational fishermen or birdwatchers. They could also value the recovery of other ecological functions such as successful reproduction or the provision of uncontaminated food to other parts of the ecosystem.

Other techniques such as the habitat equivalency analysis emphasize impairment of onsite ecological functions that may be indirectly linked to offsite human use losses. Habitat equivalency analysis may be appropriate where there is injury to habitat and the ecological services provided by that habitat, but little direct human use of the habitat. For example, consider a hazardous substance release that injures five acres of wetlands that are not used by humans for birdwatching or hunting: Onsite, the wetlands provide habitat for different species of plants and animals; stabilize sediments; provide primary productivity; and filter contaminants. The off-site human services, supported by these on-site ecological functions, may include water quality improvement, storm protection, birdwatching along flyways and commercial

and/or recreational fishing. Selecting a methodology that concentrates on replacing lost ecological services is desirable in this situation.

Question 4: The method of assessment of natural resource damages known as "contingent valuation" (or "CV") has received a lot of attention. Please briefly explain the criteria under which pending proposed federal regulations would call for it to be used. Also, please describe how often trustees actually have used CV as a methodology in assessing natural resource damages, and under what circumstances. Finally, please provide to the Subcommittee any studies or reports on CV that have helped to inform your position on use of the methodology.

Answer: NOAA's proposed regulations requested comments on whether there should be a threshold (size of potential damages) for the use of contingent valuation to estimate passive use value. NOAA's proposed regulations for the use of contingent valuation to estimate passive use value propose criteria for survey instrument design and development, survey administration, and performance, standards. In general, contingent valuation methodology (CVM) is expensive and time-consuming; therefore, it generally will only be used in cases of catastrophic or near-catastrophic loss, like the *Exxon Valdez* case under the Clean Water Act.

The proposed standards for survey instrument design and development include: willingness-to-pay elicitation; credible description of the injuries and the program to address the injuries; natural resource context of the injured resources and identification of any substitutes; reminder of respondents' budget constraints and alternative expenditure possibilities; credible choice mechanism that is incentive compatible; credible payment vehicle; and adequate field testing. In the area of survey administration, NOAA addresses the determination of the relevant population to be sampled; use of probability sampling; adequate sample size to draw the necessary statistical inferences; high response rate; and use of an experienced survey research organization. In the final area, performance standards, NOAA proposes a "scope" test to determine whether respondents are sensitive to the scope of the environmental insult. In developing its approach to the use of contingent valuation to estimate total value, NOAA has relied heavily on the "Report of the NOAA Panel on Contingent Valuation, January 12, 1993. NOAA established this panel, chaired by two Nobel Laureates, to evaluate the reliability of CV to measure passive use values. A copy of that report is enclosed. Interior, in its proposed rule, noted that it was considering NOAA's standards and requested comments on NOAA's approach.

The federal natural resource trustees have only completed one contingent valuation that estimates prospective interim lost use value in the case of *United States, et al.* v. *Montrose Chemical Corporation, et al.* The *Montrose* case involves a two by five mile area of DDT and PCB contamination on the ocean floor off the coast of Los Angeles. The trustees estimate that Montrose discharged as much as 5,500,000 pounds of DDT into the marine environment and that another responsible party discharged as much as 38,000 pounds of PCB's. The hazardous substances have injured birds and fish and have caused issuance of recreational fishing advisories and the closure of one commercial fishery. Based on information to date, trustee scientists do not expect natural recovery to occur before 2044, and perhaps not for 100 years.

NOAA is aware of several contingent valuation studies completed by non-federal trustees. Those studies addressed the Exxon Valdez oil spill (State of Alaska; report issued in 1992); the Nestucca oil spill (State of Washington and Canada; report issued in 1991); the Clark Fork hazardous waste site (State of Montana; report issued in 1993); the Eagle Mine hazardous waste site (State of Colorado; report issued in 1985); and the Idarado hazardous waste site (State of Colorado; report issued in 1986).

Question 5: CERCLA provides that natural resource damages be used "only to restore, replace, or acquire the equivalent of" the destroyed or injured resources. In this vein, please explain the relationship between how damages are assessed, and how, once recovered, they are being used to achieve statutory objectives. Please provide at least one actual example with respect to each category of natural resource values. Finally, under what circumstances have trustees pursued replacement of the injured resources or acquisition of equivalent resources?

Answer: Because the goal of the natural resource trustees is to restore, replace or acquire the equivalent of the injured natural resources, a strong link between injury assessment and restoration planning is necessary to accomplish an efficient and cost-effective natural resource damage assessment. The purpose of injury assessment is to identify and quantify injuries to natural resources that should be restored. Trustees focus their damage assessment efforts to achieve two objectives: 1) primary restoration, which will accelerate recovery of the injured resource to its condition but for the release of the contaminant; and 2) compensatory restoration to address interim losses, as described in response to question three. The trustees need to consider how any injury study will relate to one of the two objectives. To guide

this determination, the trustees evaluate, among other things, the degree to which the injury can be directly restored, the potential for natural recovery, and whether the ecosystem or the public can be compensated for interim losses through compensation activities such as habitat construction or, in the case of salmonids, stocking of a species.

The trustees base their selection of primary and compensatory restoration activities upon such factors as linkage to injuries caused by the contamination, technical feasibility, environmental effectiveness, time frame, cost effectiveness and changes in the resources that would have occurred in the absence of the hazardous substance releases.

In some case, the analysis may indicate that replacement of injured resources or acquisition of equivalent resources is the appropriate way to remedy the injuries. An example of replacement is the Apex Houston common murre recolonization project. An oil spill off the Central California coast in the vicinity of the Gulf of the Farallones National Marine Sanctuary killed at least 10,000 seabirds. The spill was a significant contributing factor to the loss of at least one common murre colony and the possible permanent destabilization of two other colonies. Working with seabird experts, the trustees axe implementing a plan to reestablish or enhance murre colonies throughout their geographic range offshore of Central California. The trustees in the Exxon Valdez oil spill have also used acquisition of the equivalent as one method of addressing the injuries caused by that spill.

Several examples of primary, direct restoration efforts are incorporated in the recently agreed to settlement for the *Blackbird Mine* case. The trustees and the responsible parties have agreed that the responsible parties will perform the following primary restoration activities: restoring populations of chinook salmon by making capital improvements to an existing hatchery and operating the hatchery for up to 30 years or until baseline populations of naturally-spawning chinook salmon are restored; and constructing and operating a fish trap in Panther Creek to divert 50 percent of returning adults to the hatchery and pass 50 percent upstream to spawn naturally.[1]

Regardless of whether the trustees are restoring, replacing or acquiring the equivalent, trustee activities also may compensate the public for one of the categories of natural resource interim values that were defined in question three. In the 1989 Presidente Rivera oil spill in the Delaware River, the trustees included lost recreational fishing as part of their natural resource damage claim. As part of the settlement in that case, direct use value is being addressed, in part, by the restoration of marshland that serves as a nursery for recreationally important finfish. The trustees also are considering public access enhancement projects that will provide additional direct use opportunities. The Blackbird Mine settlement agreement contains specific provisions to compensate the public for the interim loss of chinook salmon that resulted from the mining operations at the site. Agreed to projects include: restoring 1.7 miles of natural stream meander in a previously straightened area, and creating class A salmon habitat and riparian zone vegetation; excluding cattle from seven miles of prime salmon habitat for 100 years; and constructing a series of interconnected off-channel ponds totaling one acre in area and maintaining them for 10 years. In addition, water, sediment, streambed fauna and fisheries will be monitored by responsible parties for 30 years to determine the success of the restoration and assist in diagnosing any problems.

Trustees rarely calculate passive use losses and at this time there are no ongoing restoration projects addressing specifically this category of value.

Question 6: The General Accounting Office ("GAO") has indicated that the vast majority of settlement agreements in which federal trustees have provided releases from liability for natural resource damage claims have involved compensation for natural resource injuries of less than $500,000. GAO also found that nearly half of all such agreements have involved no payment whatsoever for natural resource injuries. How do you account for these results? Also, do you expect these figures to change in any significant manner over time?

Answer: Many of the cases analyzed by the General Accounting Office involved granting covenants not to sue (CNTS) at sites where EPA had conducted remedial activities. There are several reasons why the natural resource trustees might grant a NTS involving no monetary payment or in-kind compensation for natural resource injuries at such sites. For a large percent of these cases, frequently to accommodate responsible parties seeking resolution of all environmental liability at a site, the trustees determined that there was very little past injury and that the EPA remedy,

[1] At this site, restoration activities are premised on EPA or responsible party actions necessary to restore water quality to support chinook salmon populations lost as a result of mining operations in the Panther Creek drainage basin of the Salmon River in east central Idaho.

coupled with effective monitoring and natural recovery would address any past injury and would prevent any future injury. In other cases, there have been no resources of concern at the site, but the responsible party has insisted on a CNTS for natural resource damages.

Overall, many CNTS are granted with the provision of successful implementation of the remedy and effective monitoring so that the remedy can be fine-tuned, if necessary. By working with EPA during the remedial process, the trustees can assist in the development of protective remedies to minimize residual natural resource injury. This effective coordination in turn has resulted in less than 5 percent of the sites on the NPL requiring compensation for natural resource injuries in addition to compensation for EPA's response activities. Also, coordination and addressing natural resource concerns in part through remediation accounts for the typically small size of NRD claims at NPL sites compared to remediation costs. The trustees will continue to work closely with EPA so that their concerns can be dealt with during that process. As a result, we do not anticipate the average monetary recovery for natural resource damage cases to change significantly in the future.

Question 7: Please provide any other documents or materials that you think might be especially useful for the Subcommittee to include in its hearing record.

Answer: Several documents have been attached that augment and expand the material previously provided to the Subcommittee. Publications on the contingent valuation methodology that are being submitted include: (1) the report of NOAA's Blue Ribbon Panel on Contingent Valuation published in the Federal Register on Friday, January 15, 1993; (2) an article by W. Michael Hanemann on *Valuing the Environment Through Contingent Valuation* (printed in Volume 8, Number 4 of the *Journal of Economic Perspectives);* and (3) a briefing paper on "Contingent Valuation Method: An Overview." In addition, the following documents are also being submitted: (4) a "Compendium of Federal Natural Resource Damage Cases Under CERCLA"; (5) a letter sent to Senator Robert C. Smith and Representative Michael G. Oxley from Douglas Hall (Assistant Secretary for Oceans and Atmosphere, Department of Commerce) and Bonnie Cohen (Assistant Secretary for Policy, Management and Budget, Department of the Interior) on the federal natural resource trustee program; (6) a statement on misrepresentations in Kevin McKnight's testimony on the trustees' natural resource damage claim in the *Montrose* case; (7) an article on "The Injury/Restoration Handshake" by William Conner; and (8) an "Overview of Natural Resource Trustees Restoration Activities."

[Note: Publications referred to in response to Question 7 are retained in the Commerce Committee files.]

Mr. OXLEY. The next witness is Mr. Charles de Saillan from NAAG. Mr. de Saillan.

STATEMENT OF CHARLES DE SAILLAN

Mr. DE SAILLAN. Thank you, Mr. Chairman.

I am Charles de Saillan, Assistant Attorney General for Natural Resources in the New Mexico Office of the Attorney General. I am testifying today on behalf of the National Association of Attorneys General. I am testifying for Attorney General Tom Udall, who was unable to be here today.

These issues are of extreme importance to the State of New Mexico and to many of the members of the National Association of Attorneys General. Our Nation's natural resources are among its most important assets. Our lakes and streams, our forests and wetlands, our beaches and coastal areas, our fish and wildlife, our underground aquifers provide us with sustenance, livelihood and recreation. Even when reduced to the purest economic terms, the value of these resources is enormous.

To give just one very specific example, a recent study calculated that in 1991, migratory bird hunting in the United States generated retail sales of $1.3 billion, wages of $921 million, and tax revenues of $178 million. The figures for Ohio, Mr. Chairman, are: retail sales of $11.8 million, wages of $6 million and tax revenues of $1.35 million. When natural resources are injured or destroyed

by environmental pollution, the public suffers a tangible loss, usually an economic loss.

The goal of the Natural Resource Damage program is to restore natural resources that have been injured, lost or destroyed as a result of release of hazardous substances into the environment so that those resources may again be used by the public.

We have heard a number of criticisms about the program recently. Though most of these criticisms are unfounded, based on myths, half truths and misinformation, I would like to dispel a few of the more frequently stated repeated myths for the benefit of the subcommittee.

The first myth is that the Natural Resource Damage program is the sleeping giant of Superfund and that once it is roused, it will plunder American industry with virtually unlimited reliability. The reality, however, is quite different.

Most of the cases that State trustees have pursued have been settled, many of them without any litigation, and the vast majority for relatively modest amounts, with $1 or $2 million representing the upper range. The big multimillion dollar cases that get all of the attention, such as Clark Fork in Montana and Montrose in California are the exceptions, and those cases involve tremendous injury and destruction to natural resources.

The second myth is that trustees are relying on contingent valuation methodology to produce outrageously inflated claims. In reality, CV has been used only very rarely. We are aware of only six instances in which a CV study has been conducted or is under way, and two of those instances involved claims under the Clean Water Act, not claims under CERCLA.

The third myth is that trustees are using damage awards to line their pockets and fund the bureaucracy. The reality is that section 107(f)(1) of CERCLA expressly prohibits such use of damage awards. It requires that damage awards must be used only to restore, replace or acquire the equivalent of the injured resources.

The fourth myth is that natural resource damage claims are being used somehow punitively. In reality, of course, natural resource damage claims are not intended to be punitive and they are not being used that way. They are designed and intended to recompense the public for injured resources, and in fact, in some States, they are actually using the Natural Resource Damage program as an alternative to punitive penalties.

When a toxic release occurs, the program is used to restore the injured resources rather than hitting the company with a fine. The company gets to take credit, so to speak, for restoring the resources and probably even gets a tax deduction for the costs of the restoration. The government gets to take credit for getting the resources restored, and most importantly, the public gets the benefit of having the resources restored for its use.

The National Association of Attorneys General has adopted resolutions urging Congress to pass several amendments to improve the natural resource damage provisions of CERCLA. First of all, the statute of limitations needs to be amended. This is an issue of critical importance to the States. The current law is highly ambiguous and it is undoubtedly going to result in considerable litigation over its meaning and, in fact, it already has.

Some of the interpretations, including that one recently adopted by the court in the *Montrose* case, would have the effect of virtually wiping out the Natural Resource Damage program. We urge Congress to adopt a provision similar to that in the Oil Pollution Act.

Second of all, the statute should be amended to allow funding from the Superfund for natural resource damage assessments and restoration, as under the original 1980 law.

Third, CERCLA should be amended to expressly provide for judicial review of trustee decisions on the administrative record subject to a differential standard. Such a revision would greatly reduce the amount of litigation associated with natural resource damage claims and the resulting transaction costs. It would also provide for a much more open decisionmaking process.

Fourth, CERCLA should expressly provide for recovery of oversight, enforcement and indirect costs.

Finally, CERCLA should be amended to clarify the authority of trustees to conduct regional restoration plans.

Industry representatives have proposed a number of revisions designed to weaken the natural resource damage provisions of Superfund. Although we have not seen any proposals that would expressly repeal the natural resource damage provisions outright, the proposals that we have seen would have virtually the same effect.

We strongly oppose these proposals as stated in the May 11, 1995 letter to Senator Robert Smith, signed by 35 attorneys general, which is included in the attachments to my statement.

That concludes my presentation. I will be happy to take any questions that you may have.

[The prepared statement and attachments of Tom Udall was submitted for the record:]

PREPARED STATEMENT OF TOM UDALL, ATTORNEY GENERAL OF NEW MEXICO

INTRODUCTION

Mr. Chairman, members of the Subcommittee: I am Tom Udall, Attorney General of New Mexico. I am President-Elect of the National Association of Attorneys General ("NAAG"), and Chair of NAAG's Environment and Energy Committee.

I appreciate the opportunity to appear before you today on behalf of NAAG and provide our views on the natural resource damage provisions of the Comprehensive Environmental Response, Compensation, and Liability Act (or "CERCLA"), commonly known as Superfund. These issues are of extreme importance to the State of New Mexico, and to many of the members of NAAG.

After summarizing my statement, I will begin with a brief overview of the natural resource damage program, because it is often misunderstood. I will then describe the states' experiences in implementing the program. Finally, I will discuss several proposals to amend the natural resource damage provisions of CERCLA and provide our thoughts on those proposals.

SUMMARY

Our nations' natural resources are among its most valuable assets. When natural resources are injured or destroyed by environmental pollution, the public suffers a tangible and often economic loss. Recognizing the importance of our natural resources, Congress provided for damages resulting from injuries to natural resources when it originally passed CERCLA in 1980.

State experience in implementing the natural resource damage program runs counter to the common industry depiction of the program as a "sleeping giant" of unlimited liability. Eighteen states have pursued claims for natural resource damages under CERCLA. Most of these claims have been settled, many without any litigation. The vast majority of these claims have been settled for amounts not exceed-

ing $1 million. We are aware of only six instances in which a contingent valuation study was conducted to support a natural resource damage claim under federal law. State trustees have been very successful in obtaining restoration or replacement of injured natural resources under CERCLA.

NAAG supports several proposals for amending CERCLA to improve the natural resource damage program. First, to correct the highly ambiguous statute of limitation, CERCLA should provide that a claim must be brought within three years of the completion of a damage assessment. Second, CERCLA should allow Superfund monies to be used to fund damage assessments and restoration activities. Third, to reduce litigation and allow a more open decision-making process, CERCLA should provide for judicial review of trustee decisions on an administrative record subject to a deferential standard of review. Fourth, the authority of trustees to recover enforcement, oversight, and administrative costs should be clear. Finally, CERCLA should expressly authorize trustees to implement regional restoration plans.

Conversely, NAAG opposes several industry proposals that would virtually repeal the natural resource damage provisions of CERCLA. First, we strongly oppose eliminating liability for injuries resulting from pre-1980 disposal, which would effectively eliminate the program. Second, we oppose imposing a $50 million cap on liability per site, which would shift the excess costs of restoring the very worst sites to the taxpaying public or, more likely, leave those injured resources largely unrestored. Finally, we oppose any limitation on damage claims based on contingent valuation, which, although rarely used, is a useful tool for placing a value on insured natural resources.

I. BACKGROUND

Our nation's natural resources are among its most valuable assets. Our lakes and streams, our forests and wetlands, our beaches and coastal areas, our fish and wildlife, our underground aquifers, and countless other resources provide us with sustenance, livelihood, and recreation. Even when reduced to purest economic terms, the value of these resources is enormous. To give just one specific example, a recent economic study calculated that migratory bird hunting in the United Slates generated retail sales of $1.3 billion, wages of $921.2 million, and tax revenues of $178 million in *1991 alone*.[1] This study concluded that "[i]nvesting in migratory birds and their habitat simply makes good business sense."[2] When natural resources are injured or destroyed by environmental pollution, the public suffers a loss—often an economic one. The goal of the natural resource damage program is to restore natural resources that have been injured, lost, or destroyed as the result of the release of hazardous substances into the environment. A secondary goal of the program is to compensate the public for the lost use of those resources pending restoration.

A. The Natural Resource Damage Provisions of CERCLA

Recognizing the importance of our natural resources, Congress included provisions addressing natural resource damages when it originally passed CERCLA in 1980. The provisions were revised somewhat in the Superfund Amendments and Reauthorization Act of 1986 ("SARA"), but they remain essentially the same.

CERCLA, in section 107(a), provides liability for damages for injury to, destruction of, or loss of natural resources resulting from the release of hazardous substances into the environment. It also provides liability for the "reasonable costs" of assessing such injury, destruction, or loss.[3] Liability extends to the same classes of persons liable for cleanup and response costs.

Liability for natural resource damages is subject to several significant limitations, however. First, liability is subject to the affirmative defenses under section 107(b) for an act of God, an act of war, and an act or omission of a third party not in a contractual relationship with the defendant.[4] Second, under section 107(f)(1), there is no liability where the release and the damages resulting from the release occurred wholly before the enactment of CERCLA, on December 11, 1980.[5] Third, under section 107(c)(1), liability for damages is capped at $50 million per release or incident involving a release.[6] Fourth, liability does not extend to injuries result-

[1] Southwick Associates, *The Economic Contributions of Bird and Waterfowl Recreation in the United States During 1991* (prepared for the International Association of Fish and Wildlife Agencies and the U.S. Fish & Wildlife Service) at 2 (March 1995).
[2] *Id.* at iii.
[3] 42 U.S.C. §9607(a).
[4] 42 U.S.C. §9607(b).
[5] 42 U.S.C. §9607(f)(1).
[6] 42 U.S.C. §9607(c)(1).

ing from a federally permitted release under sections 107(j) and 101(10).[7] Finally, under section 107(f)(1), there is no liability for natural resource damages if there has been an "irreversible and irretrievable commitment" of those resources in an environmental impact statement or similar environmental analysis.[8]

Further, section 107(f)(1) of CERCLA—a provision which often seems to be overlooked by critics of the program—provides that damage awards must be used to restore, replace, or acquire the equivalent of the injured natural resources. That section also provides that "there shall be no double recovery" for natural resource damages.[9]

The term natural resources is defined quite broadly in section 101(16) as:

> land, fish, wildlife, biota, air, water, ground water, drinking water supplies, and other such resources belonging to, managed by, held in trust by, appertaining to, or otherwise controlled by the United States, any State or local government, any foreign government, any Indian tribe... [10]

Under this definition, the CERCLA natural resource damage provisions apply only to resources that are in some way owned, managed, or regulated by a government entity; purely private natural resources are not covered.[11]

B. Natural Resource Damage Assessment Regulations

CERCLA, in section 301(c)(1), further requires the federal government to promulgate regulations governing damages assessments,[12] a role that has been delegated to the Department of the Interior ("DOI"). Under section 301(c)(2), the regulations are to include "standard procedures for simplified assessments requiring minimal field observation based on units of discharge or units of affected area" ("Type A" assessments), and "alternative protocols for conducting assessments in individual cases to determine the type and extent of short- or long-term injury, destruction, or loss" ("Type B" assessments).[13]

DOI originally promulgated final regulations for "Type B" assessments on August 1, 1986,[14] and for "Type A" assessments for coastal and marine environments on March 20, 1987.[15] These regulations were immediately challenged in the D.C. Circuit as inadequate by several states, industry groups, and environmental organizations. After the 1986 Superfund amendments were passed, DOI published revisions to the regulations to conform to the new statutory requirements on February 22, 1988.[16] After the D.C. Circuit vacated and remanded major portions of the regulations,[17] DOI promulgated final revised regulations for "Type B" assessments in March 1994.[18] DOI has yet to promulgate any final revised regulations for "Type A" assessments, however.

II. IMPLEMENTATION OF THE PROGRAM

Several states have been quite active in implementing a natural resource damage program under CERCLA, ahead of even the federal government. The National Association of Attorneys General is currently compiling information on natural resource damage claims brought by state trustees under federal Law, including both lawsuits and settlements. While the information is not yet complete,[19] a few observations can be made. These observations run counter to the common industry depiction of natural resource damages as a "sleeping giant" of unlimited liability.

First, at least eighteen states have pursued claims for damages to natural resources under CERCLA,[20] although other states have pursued such claims under

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[7] 42 U.S.C. §§ 9607(j) and 9601(10).

[8] 42 U.S.C. § 9607(f)(1).

[9] *Id.*

[10] 42 U.S.C. § 9601(16).

[11] *Artesian Water Co. v. New Castle County*, 851 F.2d 643, 649 (3d Cir. 1988); *Lutz v. Chromatex*, 718 F. Supp. 413 (M.D. Pa. 1989).

[12] 42 U.S.C. § 9651(c)(1).

[13] 42 U.S.C. § 9651(c)(2).

[14] 51 Fed. Reg. 27674 (Aug. 1, 1986), codified at 43 C.F.R. Part 11.

[15] 52 Fed. Reg. 9042 (Mar. 20, 1987), codified at 43 C.F.R. Part 11, Subpart D.

[16] 53 Fed. Reg. 5166 (Feb. 22, 1988).

[17] *Ohio v. U.S. Department of the Interior*, 880 F.2d 432 (D.C. Cir. 1989) ("Type B" assessments); *Colorado v. U.S. Department of the Interior*, 880 F.2d 481 (D.C. Cir. 1989) ("Type A" assessments).

[18] 59 Fed. Reg. 14261 (March 25, 1994). These regulations have been challenged by several industry groups. *Chamber of Commerce v. U.S. Department of the Interior*, No. 94-1462 and consolidated cases (D.C. Cir. 1995).

[19] Once we have finished compiling this information, we will provide it to the Subcommittee.

[20] The states are California (6 cases), Colorado (7), Delaware (1), Idaho (4), Maine (4), Massachusetts (2), Minnesota (1), Montana (1), New Jersey (5), New Mexico (1), New York (16), North Carolina (1), Ohio (2), Oklahoma (1), Pennsylvania (1), Texas (2), Utah (1), and Washington (4).

the Clean Air Act, the Oil Pollution Act, and analogous state laws. Second, most of these claims have been settled, many without litigation. Third, the vast majority of natural resource damage claims have been settled for relatively modest amounts, not exceeding $1 million. The huge, highly publicized cases, such as the *Exxon Valdez* oil spill and the Clark Fork site in Montana—which involve tremendous injuries to natural resources and consequently very high damage claims—are the rare exception. Finally, in pursuing these claims, trustees have relied on contingent valuation methodology very rarely. Indeed, we are aware of only six instances in which a contingent valuation study has been conducted or is underway to support natural resource damage claims under federal law: the *Exxon Valdez* oil spill in Prince William Sound, Alaska (Clean Water Act),[21] the Clark Fork site near Butte, Montana,[22] the DDT and PCB discharges into Los Angeles and Long Beach Harbors, California,[23] the *Nestucca* oil spill in Gray's Harbor, Washington (Clean Water Act),[24] a pesticide spill in the Little Salmon River near New Meadows, Idaho,[25] and a statewide survey conducted in Colorado.[26]

Again, contrary to the industry depiction of the program as wasteful and inefficient, state trustees have, in many instances, been very successful in obtaining restoration or replacement of injured natural resources under CERCLA, frequently addressing serious environmental problems not addressed by other federal or state programs. A few examples follow.

Caldwell Trucking Company Site, Fairfield, New Jersey. The Caldwell Trucking Company site is an NPL site located in Fairfield, New Jersey. From the early 1950's until 1984, Caldwell Trucking Company ran an industrial waste hauling operation and disposed of large quantities of waste on site. The company regularly discharged waste containing various industrial solvents and heavy metals into four large unlined lagoons. This practice continued until 1974, when the company installed a storage tank. Contaminants migrated from the lagoons into nearby wetlands and leached into groundwater, contaminating two public water supply wells and more than fifty private residential drinking water wells.

The State of New Jersey entered into a settlement with the responsible parties to address injuries to the wetlands and aquifer. A restoration project will be undertaken to address injuries to the wetlands. Because full restoration of the aquifer is not technically feasible, additional wetlands in the recharge area of the aquifer will be acquired and protected to address injuries to the aquifer. The public water supply for the communities that utilize the contaminated aquifer will also be improved.

Sacramento River Spill, Dunsmuir, California. On July 14, 1991, a Southern Pacific Railroad tank car derailed near Dunsmuir, California and plunged twenty-five feet down a rocky embankment into the upper Sacramento River. The tank car ruptured and spilled approximately 19,500 gallons of metam sodium solution,[27] a powerful herbicide, into the river. Some 200 people were treated for eye and skin irritation and other ailments resulting from the spill. Nearby Interstate 5 was closed and the area was evacuated. The spill sterilized the river, killing an estimated one million fish, as well its other aquatic biota and riparian vegetation as far as forty miles downstream. This section of river had been a nationally recognized wild trout fishery. Wildlife which relied on the river as a habitat and source of food was also adversely affected.

The State of California, as trustee for these natural resources, brought an action for natural resource damages under CERCLA and state law in July 1992.[28] The state action was consolidated with a similar action brought on behalf of the federal government on February 8, 1993. The parties subsequently agreed to settle the case for a total of $38 million, although it is important to note that the settlement addresses not only claims for natural resource damages, but claims for response costs

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The Commonwealth of Puerto Rico has also filed one action under CERCLA. Several additional claims have been pursued under the Clean Water Act, the Oil Pollution Act, and analogous state laws.

[21] *United States v. Exxon Corp.*, Nos. A-91-082-Civ. & A-91-083-Civ. (D. Alaska filed 1991).

[22] *Montana v. Atlantic Richfield Company*, No. CV 83-317-HLN-PGH (D. Mont. filed Dec. 12, 1983).

[23] *United States v. Montrose Chemical Corp.*, No. CV90-3122-AAH (JRx) (C.D. Cal. filed March 27, 1991).

[24] *Sause Bros. Ocean Towing v. Washington*, No. 89-603-RE (D. Ore. filed 1989).

[25] *Idaho v. Southern Refrigerated Transport, Inc.*, No. 88-1279 (D. Idaho filed 1988).

[26] See Raymond J. Kopp & V. Kerry Smith, *Eagle Mine and Idarado, in* Kevin M. Ward & John W. Duffield, Natural Resource Damages: Law and Economics, 365 (1992).

[27] Metam sodium (or metham sodium) in the common trade name for sodium methyldithiocarbamate.

[28] *California v. Southern Pacific Transportation Co.*, No. CV S-92-1117 LKK GGH (E.D. Cal. filed July 13, 1992).

and civil penalties under various federal and state laws, as well. Of the settlement amount, approximately $19 million will be used to monitor and restore the river and to acquire new habitat. Another approximately $13 million will be used to reimburse federal, state, and local agencies for emergency response costs, natural resource damage assessment costs, and litigation costs. Of the remaining $6 million, which is attributable to state law claims and penalties, $3 million will go to a Fish and Wildlife Pollution and Cleanup Abatement Fund to handle future emergencies, $2 million will go to the Department of Fish and Game Preservation Fund, and $1 million will go to EPA and the regional water quality control board for civil penalties.[29]

Arrowhead Refinery, Hermantown, Minnesota. The Arrowhead Refinery is a National Priorities List ("NPL") Superfund site located in Hermantown, Minnesota. From June 1961 until December 1976, Arrowhead Refining Company operated a used oil re-refining process at the site. During that time, some 5,000 to 6,000 cubic yards of acidic petroleum sludge was disposed of in an unlined lagoon on the site. Soils and groundwater at the site are heavily contaminated with volatile organic compounds, polynuclear aromatic hydrocarbons, and lead. Consequently, approximately ten acres of forested wetlands, composed largely of white cedar, are permanently lost. White cedar forest provides a valuable wildlife habitat, especially as deer wintering areas. In addition, twenty acres of emergent wetlands near the site were damaged by contaminated runoff, diminishing the use of the wetlands by migratory waterfowl.

Under a consent decree recently entered,[30] the Minnesota Pollution Control Agency and Department of Natural Resources will receive approximately $90,000 in settlement of natural resource damage claims under CERCLA to be used to develop white cedar regeneration projects in the area. The U.S. Fish and Wildlife Service will receive approximately $60,000 for replacement of the damaged wetlands.

French Limited Site, Crosby, Texas. The French Limited site is a waste disposal site, listed on the NPL, located in Crosby, Texas. Between 1966 and 1972, the site received more than 500,000 drums of industrial hazardous waste, including solvents, acids, waste oils, phenols, PCB's, and heavy metals. The wastes were deposited in a 15-acre pit located in sandy, permeable soil in the flood plain of the San Jacinto River, resulting in contamination of surface water and groundwater.

Under a consent decree entered last year, the responsible parties agreed to acquire 21 to 25 acres of land for the creation or enhancement of marsh wetlands in settlement of claims for natural resource damages. The marsh restoration site must be located in the general vicinity of the French Limited site, and must be tidally linked to the San Jacinto River. The project will be overseen by state and federal trustees. State officials described the benefits of settlement as follows:

> The creation of the intertidal wetlands will provide a wealth of benefits to the citizens of Texas. Wetlands in their natural state have important water quality maintenance functions such as sediment removal, chemical and nutrient absorption, erosion control, groundwater recharge, and flood control. These benefits provide direct compensation for injuries to [the State's] surface water resources. In addition, wetlands provide important fish and wildlife nursery and habitat values and socioeconomic values such as recreation and aesthetics.[31]

Molycorp Mine, Questa, New Mexico. From 1965 until 1992, Molycorp conducted open pit and underground hardrock mining operations at its molybdenum mine, located off State Highway 38 just north of the Red River, between the towns of Red River and Questa, in the Sangre de Cristo Mountains of northern New Mexico. An estimated 65 million tons of waste rock was deposited in piles covering nearly 600 acres, much of it along the Red River. A large portion of the waste rock is acid-forming altered rock, which is believed to be leaching heavy metals and other hazardous substances into the Red River. Consequently, for approximately six miles downstream of the mine, the fish population of the river is severely reduced. The affected stretch of the river borders the Carson National Forest, and several Forest Service campsites are located in close proximity to the river. A few miles downstream, the river becomes part of the Cañon del Rio Grande Wild and Scenic River System and discharges into the Rio Grande. The economy of the nearby town of Red River is based primarily on tourism.

The leaching of hazardous substances from the waste rock piles into the Red River is not currently being addressed under the Superfund remediation program

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[29] See generally, Richard C. Paddock, *How Much Is a River Worth?: Assessing Damage in the Dunsmuir Spill,* California Lawyer, Aug. 1994, at 32.

[30] *United States v. Arrowhead Refining Co.,* No. 5-89-202 (D. Minn. entered May 24, 1985).

[31] Memorandum from R.C. Velasquez, Texas Natural Resource Conservation Commission, to Kris Hocllen, ASTSWMO (Mar. 31, 1995).

or any state environmental program—other than the natural resource damage program. The New Mexico Office of the Natural Resources Trustee is currently conducting a natural resource damage assessment of the mining site and plans ultimately to seek restoration of the river.

III. PROPOSALS FOR LEGISLATION

Although no Superfund reauthorization bill addressing natural resource damage provisions has been introduced, several proposals have been advanced. NAAG supports several proposals to modify and improve the natural resource damage provisions. Other proposals NAAG opposes.

A. Attorneys General Proposals

The proposals discussed below reflect policy positions that NAAG has taken in resolutions adopted on March 9, 1987 and March 21, 1994. These resolutions urge Congress to make certain key changes to the CERCLA natural resource damage provisions. Such revisions would reduce the amount of litigation likely to result from natural resource damage claims, provide funding for natural resource damage assessments, make natural resource damage claims less complicated thus reducing transaction costs, and ensure that trustees are able to recover fully their costs in developing such claims. A copy of each of these Resolutions is included in the attachments to my statement.

1. *Statute of Limitations*—The first, and perhaps the most important issue to the state trustees, is the statute of limitations for natural resource damage claims. CERCLA should be amended to provide that claims for damages to natural resources must be brought within three years of the completion of a damage assessment. Such an amendment would eliminate the anticipated litigation over interpretation of the current ambiguous CERCLA statute of limitations for natural resource damage claims. Such an amendment would also be consistent with the statute of limitations for natural resource damage claims in the Oil Pollution Act of 1990 ("OPA").[32]

As it currently reads, the statute of limitations provision in section 113(g)(1) of CERCLA provides that, except for sites listed on the NPL[33] or otherwise scheduled for a remedial action, an action for natural resource damages must be brought within three years after the later of either "the date of the discovery of the loss and its connection with the release in question," or the date on which the DOI regulations are "promulgated."[34] Each of these prongs is sufficiently ambiguous to engender considerable litigation—and indeed already has.

The first prong is extremely vague; only in unusual circumstances will this language clearly indicate a precise date. What constitutes "discovery of the loss" and "its connection with the release" is subject to a wide range of interpretations. In one recent case, which amply illustrates different possible interpretations of the law, a district court held that the federal and state trustees had "discovered the loss and its connection with the release" more than three years before filing the lawsuit, although there was no evidence that any authorized official of the trustees had had any such knowledge.[35] In so ruling, the court rejected not only the arguments of the trustees, but the conclusions and recommendations of the court-appointed special master.[36] Review of this decision is pending in the court of appeals.

The second prong is also ambiguous given the piecemeal promulgation of the DOI natural resource damage assessment regulations. Although DOI has taken the position that the regulations are not "promulgated" until the comprehensive regulations are in place,[37] defendants have argued that the three-year period began to run when the first regulations were issued in 1986. Moreover, the few courts that have ruled on the issue have not reached consistent results. One court recently ruled that the three-year period began when the first "Type B" regulations were promulgated in

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[32] Section 1017(f)(1) of OPA, 33 U.S.C. §2717(f)(1).

[33] The National Priorities List. See section 105(a)(8)(B) of CERCLA, 42 U.S.C. §9605(a)(8)(B).

[34] 42 U.S.C. §9613(g)(1).

[35] *United States v. Montrose Chemical Corp.*, No. CV90-3122-AAH (JRx), slip op. at 13-22 (C.D. Cal. March 30, 1995), *permission to take interlocutory appeal granted* (9th Cir. May 22, 1995).

[36] See *United States v. Montrose Chemical Corp.*, No. CV90-3122-AAH (JRx) (C.D. Cal. Aug. 17, 1994) (special mater's report and recommended rulings on the defendants' motions for summary judgment as to the first cause of action based upon the statute of limitations).

[37] DOI Notice of Proposed Rulemaking, 56 Fed. Reg. 19752, 19773 (April 29, 1991); DOI Reopening of Comment Period, 58 Fed. Reg. 39328, 39354 (July 22, 1993); DOI Final Rule, 59 Fed. Reg. 14262 (March 25, 1994).

1986.[38] Another court, several years ago, held that the period began to run when the first "Type A" regulations were promulgated in 1987.[39]

Needless to say, various interpretations of the law that have been advanced—and that have been accepted by some courts—would have the devastating result of precluding federal, state, and tribal trustees from obtaining restoration of injured natural resources at most sites. This result would follow notwithstanding the fact that the trustees have not had the benefit of both final "Type A" and "Type B" assessment regulations to guide their assessment decisions, as Congress clearly intended when it passed and amended CERCLA.

Moreover, the statute of limitations may put a trustee in the awkward position of bringing an action for natural resource damages before a damage assessment has been completed and hence before the trustee can articulate the relief it is seeking. A trustee may be compelled to file an action—before completing an assessment—to avoid losing its claim forever on statute of limitations grounds. Until the damage assessment has been completed and a restoration plan is in place, however, it is not possible for the trustee to quantify the damages or to define the restoration it seeks.[40]

2. *Funding*—A second very important issue to state trustees is funding for damage assessments. CERCLA should be amended to make Superfund monies available to federal, state, and tribal trustees for assessing damages to natural resources and conducting restoration activities.

Section 111(c)(1) and (2) of CERCLA[41] expressly provides that Superfund monies may be used to conduct natural resource damage assessments and to restore, rehabilitate, replace, or acquire the equivalent of damaged natural resources. This provision is contradicted, however, by section 517 of SARA, which amends section 9507(c)(1) of the Internal Revenue Code. As amended, that section provides that Superfund monies shall be available only for purposes "other than" the purposes set forth in section 111(c)(1) and (2), that is, for purposes other than damage assessment and restoration.[42]

Given this limitation it is extremely difficult for trustees to fund natural resource damage assessments. Consequently, many state and tribal trustees are not conducting assessments and an important goal of CERCLA is not being met. Moreover, trustees usually lack sufficient information to provide responsible parties with a covenant not to sue for natural resource damage claims until after an assessment has been done. Thus, responsible parties are often prevented from fully settling their CERCLA liability at the time of implementation of the remedial action. Finally, trustees are often unable to coordinate meaningfully with EPA or other agencies conducting site remediation. Ideally, trustees work closely with EPA (or equivalent state agency) in collecting data and selecting a remedy which addresses injuries to natural resources. Unless an assessment is conducted, however, trustees are often unable to determine the scope of injuries and damages; EPA may move forward with selecting and implementing a remedy while the trustees are left behind.

3. *Judicial Review*—A third important issue is judicial review of trustee decisions. CERCLA should be amended to provide for an administrative record for assessment and restoration decisions by federal, state, and tribal trustees, and that judicial review of such decisions is limited to the administrative record on the arbitrary and capricious standard. Such a provision would greatly reduce the amount of litigation—and transaction costs—likely to result from a claim for damages to natural resources. It would also allow greater public participation in damage assessment and restoration decisions. Such a provision would also be consistent with section 113(j) of CERCLA[43] which provides for record review of EPA decisions on response actions.

Although we believe that record review is the proper standard for judicial review of trustee decisions under current law, the issue is not clearly settled.[44] Without ad-

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[38] *United States v. Montrose Chemical Corp.*, No. CV90-3122-AAH (JRx), slip op. at 4-13 (C.D. Cal. March 30, 1995). *permission to take interlocutory appeal granted* (9th Cir. May 22, 1995).

[39] *United States v. City of Seattle*, 33 Env't Rep. Cas. (BNA) 1549, 1550 (W.D. Wash. 1991).

[40] See *United States v. Hardage*, 663 F. Supp. 1280, 1283 (W.D. Okla. 1987), in which the court "strongly admonished the government" for having brought an action for injunctive relief under CERCLA that was "premature and violated Rule 11, Fed. R. Civ. P." because the government "was unable to articulate the nature of the relief it sought."

[41] 42 U.S.C. §9611(c)(1) and (2).

[42] 26 U.S.C. §9507(c)(1).

[43] 42 U.S.C. §9613(j).

[44] To date, no court has addressed the standard of review in a case for damages to natural resources. Several courts have addressed the issue in cases for CERCLA response actions, but with differing results. *Compare United States v. Seymour Recycling Corp.*, 679 F. Supp. 859, 861 (S.D. Ind. 1987) (judicial review of EPA response action limited to the administrative record on

ministrative record review, defendants in many natural resource damage cases can be expected to challenge the trustee's damage assessments and restoration plans and the underlying methodologies in court, and to promote their own damage assessment and restoration plans. Trial is likely to consist of each side presenting competing damage assessments and restoration plans, each based on differing methodologies, and each supported by batteries of opposing expert witnesses.[45]

Moreover, without a record review provision, both the trustee and the responsible parties are likely to seek to withhold their scientific studies and expert reports as privileged, as was done in the *Exxon Valdez* litigation making meaningful public participation impossible. If, on the other hand, an administrative record is mandated, each side will have a strong incentive to submit its studies and reports into the record to be considered by the court. A much more open and efficient, less litigious process will result.[46]

4. *Enforcement, Oversight, and Administrative Costs*—A fourth important issue is the authority of trustees to recover enforcement, oversight, and administrative costs. CERCLA should be amended to clarify that trustees are entitled to recover from liable parties their enforcement costs, including attorney costs, in bringing natural resource damage claims, their oversight costs in monitoring restoration work done by responsible parties, and their administrative or indirect costs. Such an amendment will ensure that trustees are able to recover fully the costs of asserting damage claims and restoring natural resources. Although any enforcement costs a trustee incurs should be recoverable under current law, a number of recent court decisions have put into question the authority of trustees to recover certain costs.

First, several recent cases have held that a private party could not recover as CERCLA response costs attorneys fees incurred in litigation absent an explicit statutory provision.[47] The rationale of these decisions might be applied to trustees seeking to recover attorneys fees incurred in connection with natural resource assessment or restoration activities. Yet enforcement is essential to the effective implementation of a program for the restoration of injured natural resources, and attorneys fees are an essential element of enforcement. Unless attorneys fees are recoverable, trustees will not be fully compensated for their costs in achieving restoration of injured natural resources.

Similarly, several recent decisions have held that the costs of overseeing private party response actions are not recoverable absent an express statutory provision.[48] While we believe these cases are wrongly decided, and several courts have taken the opposite view,[49] the reasoning of these cases might be applied to oversight of

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the arbitrary and capricious standard) *with United States v. Hardage*, 663 F. Supp. 1280 (D. Okla. 1987) (EPA's remedy decision subject to *de novo* review because the 1986 amendment to CERCLA adding a record review provision in not retroactive, the CERCLA record review provision does not apply to actions for injunctive relief; and the United States was seeking the same relief under section 7003 of the Resource Conservation and Recovery Act, which has no record review provision) *and United states v. Ottati & Goss, Inc.*, 900 F.2d 429, 434-36 (1st Cir. 1990) (the CERCLA record review provision does not apply to actions for injunctive relief).

[45] See *United States v. Hardage*, 740 F. Supp. 1460, 1462 (W.D. Okla. 1989) (after having ruled that the remedy selected by EPA for the cleanup of the Royal Hardage Superfund site would be reviewed *de novo*, the court was presented with "competing remedies" each supported by dozens of opposing expert witnesses).

[46] For a good discussion of this issue, see NOAA Notice of Proposed Rulemaking, 57 Fed. Reg. 8964, 8987-88 (Appendix III—Judicial Review of the Assessment/Restoration Process) (Mar. 13, 1992). See also, letter from Dr. John W. Farrington, Woods Hole Oceanographic Institute, to Dr. Frank Press, National Academy of Sciences, dated July 10, 1989. Dr. Farrington worked on natural resources restoration planning following the *Exxon Valdez* oil spill. In his letter at page 2, he laments the "nondisclosure instructions" from the attorneys handling the litigation, which he asserts reduced the effectiveness of scientific research. Both of these documents are included in the attachments to my statement.

[47] *Key Tronic Corp. v. United States*, -- U.S. --, 114 S.Ct. 1960 (1994) (attorney costs not recoverable under section 107(a)(4)(B) of CERCLA absent an express statutory provision); *Stanton Road Associates v. Lohrey Enterprise*, 984 F.2d 1015, 1017-020 (9th Cir. 1993) (same).

[48] *United States v. Rohm and Haas Co.*, 2 F.3d 1265, 1275-79 (3d Cir. 1993) (EPA in not entitled to recover oversight costs); *United States v. Witco Corp.*, 853 F. Supp. 139, 142-43 (E.D. Pa. 1994) (same); *Central Maine Power Co. v. F.J. O'Connor Co.*, 838 F. Supp. 641, 648 (D. Me. 1993) (responsible party that settled with EPA for oversight costs is not entitled to recover those costs from other responsible parties); *County of Santa Clara v. Meyers Industries*, No. C-9220246 (N.D. Cal. June 13, 1994) (state and county not entitled to recover oversight costs).

[49] *New York v. Shore Realty Corp.*, 759 F.2d 1032, 1043 (2d Cir. 1985) (state entitled to recover oversight costs); *United States v. Lowe*, 864 F. Supp. 628 (S.D. Tex. 1994) (EPA entitled to recover oversight costs); *Colorado v. United States*, 867 F. Supp. 948, 952-53 (D. Colo. Nov. 17, 1994) (state entitled to recover oversight costs); *California Dept. of Toxic Substances Control v. Louisiana-Pacific Corp.*, No. CIV S-89-871 LKK (E.D. Cal. May 10, 1994) (same); *California*

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assessment and restoration activities conducted by responsible parties. For obvious public policy reasons, CERCLA encourages parties to settle claims arising under the Act, including natural resource damage claims. Settlement will often result in an agreement between the trustees and the responsible parties for the responsible parties to conduct some of the assessment or restoration work. Again, for obvious public policy reasons it is essential that the trustees oversee such responsible party activities. The cost of such oversight is a reasonable and proper element of assessment or restoration costs, and should be recoverable. A trustee should not be compelled to conduct less than thorough oversight because it will not be able to recover those costs.

Finally, although no court has yet ruled on the issue, in at least one important case several parties have challenged the authority of the trustees to recover their indirect cost associated with assessment and restoration.[50] Indirect costs include such things as overhead and administration which are essential to implementation of the natural resource damage program. As one court reasoned in the context of an EPA action for the recovery of response costs:

> [T]he challenged indirect costs *are* attributable to... cleanup [of the] site in that they represent the portion of EPA's overhead expenses that supported the government's response action... As such, the government's total response costs necessarily include both direct and indirect costs inherent in the cleanup operation. The EPA demonstrated that its indirect costs for such things as office space for EPA employees who oversee response actions represent costs incurred in support of more than one response action and that are apportioned regionally among all the response actions undertaken in a given region.... The use of direct and indirect costs in calculating total costs comports with standard accounting practices and reflects the true overall costs incurred by the government in cleaning up the property.[51]

This reasoning should apply with equal force in the context of an action to recover the costs of an assessment or restoration.

5. *Regional Restoration Plans*—A final issue is the authority of trustees to implement regional restoration plans. CERCLA should be amended to clarify the authority of trustees to apply damage awards to a regional restoration plan for a specific area or ecosystem. Such an amendment would clearly allow the trustee to pool several relatively small recoveries and apply them to a geographic area, such as a bay, estuary, wetland, watershed, aquifer, or habitat, thus achieving a more comprehensive restoration than would have been possible through a smaller, more fragmented approach. This regional restoration approach is provided for in the natural resource damage assessment regulations recently proposed by the National Oceanic and Atmospheric Administration ("NOAA") under OPA.[52] Given that CERCLA mandates that natural resource damage awards may be used "only to restore, replace, or acquire the equivalent of such natural resources"[53] it would be useful, and would possibly avoid unnecessary litigation, to clarify the authority for a regional or ecosystem restoration approach.

B. Industry Proposals

We have seen several industry proposals for legislation addressing the natural resource damage provisions of CERCLA. The major proposals would further limit liability for pre-1980 releases, place a more restrictive cap on liability, and restrict or eliminate the use of contingent valuation methodology for assessing damages. We are today sending to this Subcommittee a letter signed by thirty-five attorneys general specifically opposing these proposals. A copy of the letter is included in the attachments to my statement.

1. *Pre-1980 Disposal*—The first proposal would eliminate liability for injuries resulting from the disposal of hazardous substances occurring prior to the enactment of CERCLA on December 11, 1980. As explained above, CERCLA already provides that there is no liability for natural resources damages where the release and the damages occurred wholly before enactment. This proposal would limit liability for all pre-1980 disposal, even where injuries continue to this day or indefinitely into

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Dept. of Toxic Substances Control v. Snydergeneral Corp., No. CV-F-92-5685-REC (E.D. Cal. Apr. 15, 1994) (same).

[50] Joint Opening Brief of Industry and Sanitation District Petitioners at 85-88, *Chamber of Commerce v. U.S. Dept. of the Interior*, No. 94-1462 and consolidated cases (D.C. Cir. 1995).

[51] *United States v. R.W. Meyer, Inc.*, 889 F.2d 1497, 1503-04 (6th Cir. 1989) (emphasis in original).

[52] NOAA Proposed Rules, 59 Fed. Reg. 1062, 1069, 1089, and 1171 (Jan. 7, 1994) (to be codified at 15 C.F.R. §990.16(c)).

[53] Section 107(f)(1) of CERCLA, 42 U.S.C. §9607(f)(1).

the future. Of course, this proposal is closely related to industry proposals to eliminate all liability under CERCLA for pre-1980 disposal, which we strongly oppose.[54]

Adoption of any such proposals would have a devastating effect on state programs to restore injured natural resources. At best, elimination of liability for pre-1980 disposal would shift the costs of restoring injured natural resources to the taxpaying public for the many hundreds of sites where disposal took place prior to 1980, even though the injuries resulting from such disposal continue to the present day. In most instances, however, we fear that without liability, funding for restoration simply would not be available and the injured resources would not be restored at all. The consequences would be tragic. For example, recreational and commercial fisheries in the Clark Fork River basin in Montana, the Hudson River in New York, Lavaca Bay in off the coast of Texas, the Coeur d'Alene basin in Idaho would be lost for our lifetime, our childrens' lifetime, and beyond.

From our perspective in New Mexico, we have approximately sixty sites at which natural resources have been injured by the release of hazardous substances. All but perhaps four or five of these sites involve mostly pre-1980 disposal. We have no state superfund law, and no source of funding to conduct restoration of injured natural resources. Thus, if liability for pre-1980 disposal were eliminated, the injured resources at these sites would remain unrestored.

Moreover, elimination of natural resource damage liability for pre-1980 disposal would result in the dismissal of a number of damage claims that state and federal trustees are currently litigating. For example, the Clark Fork site near Butte, Montana,[55] and the DDT and PCB discharges into Los Angeles and Long Beach Harbors, California,[56] both involve, almost entirely, pre-1980 disposal activities, although injuries and damages would continue indefinitely into the future.

Finally, elimination of pre-1980 liability would result in new rounds of litigation and associated transaction costs on the issues of when disposal occurred and division of liability for damages resulting from pre-1980 and post-1980 disposal

Nor is any legislation needed to give effect to the limitation on preenactment natural resource damage liability already included in CERCLA. The few courts that have addressed this issue have found that where disposal occurred before 1980, divisible pre-1980 damages are not recoverable, and have limited recoverable damages accordingly.[57]

2. *Cap on Liability*—The second proposal would cap natural resource damage liability at some monetary level, most likely $50 million per site. As explained above, CERCLA currently caps natural resource damage liability at $50 million per release or incident involving a release. This proposal would expand the cap to cover the entire site and all responsible parties at the site.

While this proposal would impact only a few sites such as the Clark Fork site, the Los Angeles and Long Beach Harbor site, and the Coeur d'Alene site, the impact on these sites would be tremendous. Several different activities have taken place at these sites over a period of many years, causing multiple releases or incidents involving releases. Consequently, the total damages for injured natural resources significantly exceeds $50 million. Such a proposal would shift the excess costs of restoring or replacing those injured resources to the public, or, more likely, leave these injured resources largely unrestored in perpetuity.

3. *Limitation on Contingent Valuation*—The third proposal would limit natural resource damage claims based either on non-use values or contingent valuation methodology ("CVM" or "CV"). Adoption of such a proposal would arbitrarily deprive trustees of important tools currently available to quantify a damage claim for injuries to natural resources.

The first and primary component of a natural resource damage claim is the cost of implementing restoration or replacement of the injured resource. The second component of a claim is compensation for "interim loss," that is, the value of the resource pending restoration.

To determine the dollar value of the interim loss economists measure the "use values" and the "non-use values" of the resource. Additionally, in some circumstances when full restoration is not feasible and thus cannot serve as the measure of damages, use values and non-use values may be measured to determine the total value

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[54] See letter from Deborah T. Poritz, Attorney General of New Jersey, to Senator Robert C. Smith, signed by forty-three attorneys general, dated April 27, 1995.

[55] *Montana v. Atlantic Richfield Company,* No. CV 83-317-HLN-PGH (D. Mont. filed Dec. 12, 1983).

[56] *United States v. Montrose Chemical Corp.,* No. CV90-3122-AAH (JRx) (C.D. Cal. filed March 27, 1991).

[57] *In re Acushnet River & New Bedford Harbor Proceedings Re Alleged PCB Pollution ("Acushnet V"),* 716 F. Supp. 676, 685-87 (D. Mass. 1989).

of the resource. The use-values refer to the value that the public derives from actually using a resource, such as fishing, hunting, viewing, or using in underground aquifer as a drinking water supply. The non-use values concept embodies the fact that even though an individual may not have direct use of a natural resource, that individual may hold a value for the resource, simply by knowing that it exists, and that it will continue to exist for the potential use of others, or to be passed on to future generations. Economists agree that non-use values are real (not hypothetical). For example, a bald eagle nesting area may not be "used" by the public in any economic sense, but most people would agree that it has a value. Unless such non-use values are recognized in the law—as they currently are—the eagle nesting area could be destroyed with impunity.

CV is a method for measuring the total value of an injured resource, including the non-use value, which consists of a random survey conducted much like a public opinion poll. CV is a technique to set up hypothetical markets for resources that are not traded in a market.[58] Although controversial, most economists agree on its utility and its ability, when properly implemented, to provide valid results. In 1992, NOAA commissioned the Contingent Valuation Panel, a blue ribbon panel of experts, including two nobel laureates, to evaluate CV as a damage assessment tool. Their report, released in January 1993, concluded that a properly conducted CV study can provide a useful measure of natural resource damages.[59] The report discussed several guidelines for CV studies. The validity of CV moreover, was upheld by the court that reviewed the DOI assessment regulations.[60]

Although CV is an important tool for obtaining a comprehensive measure of damages it has been used only very rarely, and only in the context of extraordinary or catastrophic spills or toxic releases. As noted above, we are aware of only six instances in which CV has been used to support a natural resource damage claim under any federal law, and only four under CERCLA.

Moreover, for a CV study to be of any value in supporting a natural resource damage claim, it must meet the evidentiary standards for admissibility of scientific evidence in a federal court. The Supreme Court has recently spoken on this issue, holding that scientific evidence can be admitted only if the trial court finds that it is both relevant and reliable.[61] A trial court must determine the reliability of scientific evidence by considering several factors: 1) whether the scientific methodology has been tested; 2) whether the methodology has been subjected to peer review and publication; 3) the rate of error of the methodology; and 4) the general acceptance of the methodology in the relevant scientific community.[62] Thus, the courts, would be required to pass on the reliability of any CV study, thereby providing a substantial check on the use of CV to support damage claims.

Finally, the proposed limitations on CV may be unnecessary in Superfund reform legislation. At the direction of Congress, DOI is currently developing rules governing the application of non-use values and CV in the regulatory forum, where decisions will be made after full public participation. In preparing these regulations, DOI is taking into account industry and other public comments as well as guidelines submitted by the blue-ribbon panel of economics experts. It would be unwise to ignore the public input and experience considered in this rulemaking process, which has developed over a period of several years.

CONCLUSION

On behalf of NAAG, I want to thank you again for the opportunity to testify today on this important issue. We look forward to working with you and your staff in drafting amendments to CERCLA addressing damages for injuries to natural resource. We trust that we will be consulted on these and other provisions of the CERCLA reauthorization bill drafted by your Subcommittee.

That concludes my prepared statement. I'll be happy to take any questions you may have.

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[58] *Ohio v. U.S. Department of the Interior*, 880 F.2d 432, 475 (D.C. Cir 1989).

[59] Kenneth Arrow, Robert Solow, et al., Report of the NOAA Panel on Contingent Valuation (Jan. 11, 1993), reprinted in, NOAA, Advance Notice of Proposed Rulemaking, Appendix I, 58 Fed. Reg. 4601, 4602 (Jan. 15, 1993).

[60] *Id.* at 476-481.

[61] *Daubert v. Merrell Dow Pharmaceuticals, Inc.*, 113 S.Ct. 2786, 2795 (1993).

[62] *Id.* at 2796-97.

NATIONAL ASSOCIATION OF ATTORNEYS GENERAL

CLAIMS FOR NATURAL RESOURCE DAMAGES UNDER CERCLA

Resolution: Adopted March 20–22, 1994

WHEREAS, the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) specifically authorizes designated state trustees for natural resources or authorized State representatives to bring claims for damages to natural resources, *inter alia,* within their management or control;

WHEREAS, the Attorneys General of the states have significant responsibilities in assessing damages to natural resources under the management or control of state trustees or authorized representatives resulting from the release of hazardous substances, and in ensuring that such lost or damaged natural resources are replaced or restored to their baseline condition;

WHEREAS, the Attorneys General of the states believe the natural resource damage provisions of CERCLA serve an important goal and support the effective and efficient implementation of those provisions;

WHEREAS, in March 1987, the National Association of Attorneys General adopted a resolution urging Congress to amend CERCLA to allow Superfund monies to be used for assessments of damages to natural resources, and for efforts to restore damaged natural resources; and

WHEREAS, the Attorneys General of the states support constructive amendments to the natural resource damage provisions of CERCLA for the following purposes: (1) to make it less complicated for natural resource trustees to finance and conduct assessments of damages to natural resources and restoration of natural resources under their management or control; (2) to reduce the amount of litigation that may result from bringing a claim for damages to natural resources; and (3) to ensure that the trustees are able to recover fully their costs in assessing damages to natural resources, bringing claims for damages to natural resources, and replacing or restoring lost or damaged natural resources.

Now, therefore, be it resolved that the National Association of Attorneys General:

Urges Congress to amend the natural resource damage provisions of CERCLA to:

1. clarify that in any legal action, decisions of a federal, state, or tribal natural resource trustee shall be reviewed on the administrative record and shall be upheld unless found to be arbitrary and capricious or otherwise not in accordance with law;

2. provide that claims for damages to natural resources must be brought within three years of the completion of a damage assessment, thus making the CERCLA statute of limitations for natural resource damage claims identical to that in the Oil Pollution Act of 1990;

3. clarify that trustees are entitled to recover from liable parties their enforcement costs in bringing natural resource damage claims, oversight costs in monitoring restoration work done by responsible parties, administrative costs, and attorneys fees;

4. clarify the authority of the trustee to apply damage awards to regional restoration plans to be used to restore resources in a given geographical area, ecosystem, or habitat impacted by the release or threatened release; and

5. allow Superfund moneys to be used by the Trustees to perform natural resource damage assessments.

Be It Further Resolved that NAAG authorizes its Executive Director and General Counsel to send this resolution to the appropriate Congressional Committees, to the Administrator of the U.S. Environmental Protection Agency, the Attorney General of the United States, and other interested individuals and associations.

Abstain: Attorney General Don Stenberg

NATIONAL ASSOCIATION OF ATTORNEYS GENERAL

NATIONAL RESOURCE DAMAGE ASSESSMENTS

Resolution VI.—Adopted March 8–10, 1987

WHEREAS, the position of the National Association of Attorneys General and the National Governors' Association, as presented to the United States Congress during its deliberations on the Superfund Amendments and Reauthorization Act of 1986 ("SARA"), Pub. L. 99–499 (Oct. 17, 1986), was that it is appropriate that the federal Hazardous Substance Superfund be a source of last resort for satisfaction of a state's claims for damages to its natural resources caused by hazardous substances which have been released into the environment so long as the federal Superfund remained available in the first instance for satisfaction of state claims for natural resource damage assessment costs; and

WHEREAS, the United States Congress accepted this position by amending section 111(b)(2) of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 ("CERCLA") (commonly known as the "Superfund Act"), 42 U.S.C. sec. 9611 (b)(2) (amended 1986), to provide that the Superfund is not available for payment of "natural resource claims" until the claimant (which would include a state) has exhausted all administrative and judicial remedies to recover the claim from liable parties, but which amendment also specifically provides that the phrase "natural resource claims" does not include "any claim for the costs of natural resource damage assessment," 42 U.S.C sec. 9611 (b)(2)(B) (amended 1986), thus assuring that the Superfund is available in the first instance to pay state natural resource damage assessment claims; and

WHEREAS, as evidence of its intent that the Superfund be available to pay state natural resource damage assessment claims, the United States Congress amended CERCLA section 111(c) by SARA section 111(d), to provide:

> (c) Uses of the fund... include
>
> (c) The costs of assessing both short-term and long-term injury to, destruction of, or loss of any natural resources resulting from a release of a hazardous substance.

42 U.S.C. sec. 9611(c)(1) (amended 1986) (emphasis added); and

WHEREAS, the United States Congress, in further evidence of its intent that the Superfund be available to pay state natural resource damage assessment claims, amended section 221(c) of CERCLA, 42 U.S.C. sec. 9631(c) (amended 1986), by section 204(b) of SARA, to read as follows:

> (c) *Expenditures from trust fund.* Amounts in the Hazardous Substance Superfund established under Subchapter A of chapter 98 of the Internal Revenue Code of 1954 shall be available for expenditure only as provided in section 9611 of this title

and, as quoted above, CERCLA section 111(c)(1), 42 U.S.C. 9611(c), expressly authorizes use of the Superfund for natural resource damage assessment claims; and

WHEREAS, late in the legislative session, following committee approval of the above-quoted provisions of SARA, there was inserted into section 517(a) of SARA, which did *not* amend CERCLA but which amended section 9507 of subchapter A of chapter 98 of the Internal Revenue code of 1986, the following language:

> (c) *Expenditures From Superfund.*
>
> (1) *In General.* Amounts in the Superfund shall be available, as provided in appropriation Acts, only for purposes of making expenditures—
>
> (A) to carry out the purposes of—
>
> (ii) section 111(c) of CERCLA (as so in effect), *other than paragraphs (1) and (2) thereof,...*

(Emphasis added) which, by purportedly rejecting the availability of the Superfund for purposes specified in CERCLA section 111(c)(1), purports to make the Superfund unavailable to pay state natural resource damage assessment claims; and

WHEREAS, the above-quoted provision of SARA section 517(a) expressly contradicts the provisions of the more directly applicable and governing sections 111(d) and 204(b) of SARA, both of which amended the express provisions of CERCLA which govern use of the Superfund and which expressly make the Superfund available to support state natural resource damage assessment activities; and

WHEREAS, the availability of the Superfund to support state natural resource damage assessments assures that states will have the necessary financial resources to undertake the often complex highly technical, and very expensive environmental investigations which are necessary to properly assess natural resource damages caused by released hazardous substances; and

WHEREAS, making the Superfund available to support state natural resource damage assessment activities is in the public interest because the evidence gained from the environmental investigations designed to assess natural resource damages caused by released hazardous substances will also be used by the states to support enforcement actions against responsible parties under applicable federal and state environmental laws, which enforcement actions will secure both site cleanup and the restoration, rehabilitation or replacement of damaged natural resources; and

WHEREAS, the United States Congress has already made available to the states in section 107(a)(1)-(4)(C) of CERCLA, 42 U.S.C. sec. 9607(a)(1)-(4)(C) (amended 1986), a federal cause of action for recovery of natural resource damages *and* damage assessment costs from responsible parties; and

WHEREAS, the necessary replenishment of the Superfund can be assured by contractual arrangements between a state and the United States Environmental Pro-

tection Agency whereby the state would commit itself to seeking recovery from responsible parties and subsequent reimbursement to the Superfund of any natural resources damage assessment moneys advanced to the state by the Superfund.
Now, Therefore, Be It Resolved by the National Association of Attorneys General that the Administrator of the U.S. Environmental Protection Agency ("USEPA") should be, and hereby is, urged to promptly resolve the conflict between SARA sections 111(d) and 204(b) on the one hand and SARA section 517 on the other hand by promulgating, by formal rulemaking or otherwise, a policy that assures that the Superfund will be available to states to support their natural resource damage assessment activities and which, while securing state fiscal accountability, will minimize unnecessary administrative restrictions and impediments on the state's assessment activities.
Be It Further Resolved by the National Association of Attorneys General that its representatives to the U.S. Department of Justice National Environmental Enforcement Council and USEPA Advisory Committee now advising the USEPA on the revised administrative rulemaking required by SARA be directed to advance, explain and support the position taken by this Resolution and that the Executive Director of the Association be directed to call upon the environmental staff attorneys and such other members of the Association as she may deem necessary to advise and support the activities of such Association representatives.
Be It Also Further Resolved by the National Association of Attorneys General that, should reasonable efforts to secure the benefits of this resolution from the Administrator of USEPA prove unsuccessful, the United States Congress should be, and hereby is, urged to promptly amend section 517(a) of SARA by deleting the phrase "other than paragraphs (1) and (2) thereof" from section 9507(c)(1)(A)(ii) of subchapter A of chapter 98 of the Internal Revenue Code of 1986.
Be It Further Resolved that this resolution be referred to the legislative subcommittee of the Environment Committee for further action.

STATE OF NEW JERSEY,
OFFICE OF THE ATTORNEY GENERAL,
May 11, 1995.

HON. ROBERT C. SMITH
Chairman, Senate Committee on Environment and Public Works
Subcommittee on Superfund
Washington, DC

Re: Superfund Reauthorization

DEAR CHAIRMAN SMITH: As Congress considers reform of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), or Superfund, we wish to state our position on one of the key issues in the debate. We understand that the natural resource damage provisions of CERCLA will probably be addressed in legislation introduced in the new Congress. On October 5, 1994, 27 attorneys general signed a letter to Senator [then-Chairman] Max Baucus urging Congress to reject several proposed amendments designed to weaken the natural resource damage provisions of CERCLA. Similar proposals are likely to resurface in this Congress.

One proposal would eliminate liability for injuries resulting from the disposal of hazardous substances occurring prior to the enactment of CERCLA. Such a proposal would shift the costs of restoring injured natural resources from the responsible polluter to the taxpaying public for the many hundreds of sites where disposal took place prior to 1981, even though the injuries resulting from such disposal continue to the present day.

A second proposal would cap natural resource damage liability at some monetary level, most likely $50 million per site.[1] At a number of large Superfund sites, where multiple releases or incidents involving releases of hazardous substances have occurred, the total damages for injured natural resources significantly exceeds $50 million. Such a proposal would shift the excess costs of restoring or replacing those injured resources to the public.

A third proposal would limit natural resource damage claims based on non-issue values or contingent valuation methodology (CVM). CVM is, however, a widely accepted economic methodology. Its utility has been recognized by a blue-ribbon panel of economics experts, which includes two nobel laureates, specifically established by

[1] Current law places a cap on natural resource damage liability at $50 million per *release or incident,* a much narrower limitation.

the federal government to review the use of CVM.[2] Moreover, the proposed limitations may be unnecessary in Superfund reform legislation. The Department of the Interior (DOI) is currently developing rules governing the legislation. The Department of the Interior (DOI) is currently developing rules governing the application of non-use values and CVM in the regulatory forum, where decisions will be made after full public participation. In preparing these regulations, DOI is taking into account industry and other public comments as well as guidelines submitted by the blue-ribbon panel of economic experts. It would be unwise to ignore the public input and experience considered in this rulemaking process, which has developed over a period of several years.

Enactment of any such proposed revisions to Superfund would seriously impair the authority of state trustees to recover damages for injuries to natural resources. Such proposals would also undermine several pending cases brought by state and federal trustees under current law. We strongly oppose any proposals designed to weaken the natural resource damage provisions of CERCLA.

We appreciate your consideration of our concerns.

Sincerely,

TOM UDALL, *Attorney General of New Mexico.*

DEBORAH T. PORITZ, *Attorney General of New Jersey.*

Grant Woods, Attorney General of Arizona; Winston Bryant, Attorney General of Arkansas; M. Jane Brade, Attorney General of Delaware; Robert A. Butterworth, Attorney General of Florida; Michael J. Bowers, Attorney General of Georgia; Calvin E. Holloway Sr., Attorney General of Guam; Margery S. Bronster, Attorney General of Hawaii; Jim Ryan, Attorney General of Illinois; Pamela Fanning Carter, Attorney General of Indiana; Tom Miller, Attorney General of Iowa; Carla J. Stovall, Attorney General of Kansas; Chris Gorman, Attorney General of Kentucky; Richard P. Ieyoub, Attorney General of Louisiana; Andrew Ketterer, Attorney General of Maine; J. Joseph Curran, Jr., Attorney General of Maryland; Scott Harshbarger, Attorney General of Massachusetts; Frank J. Kelley, Attorney General of Michigan; Hubert H. Humphrey, III, Attorney General of Minnesota; Mike Moore, Attorney General of Mississippi; Jeremiah W. Nixon, Attorney General of Missouri; Joseph P. Mazurek, Attorney General of Montana; Frankie Sue Del Papa, Attorney General of Nevada; Richard Weil, Attorney General of the Northern Mariana Islands; Drew Edmondson, Attorney General of Oklahoma; Theodore R. Kulongoski, Attorney General of Oregon; Jeffrey B. Pine, Attorney General of Rhode Island; Mark Barnett, Attorney General of South Dakota; Charles W. Burson, Attorney General of Tennessee; Dan Morales, Attorney General of Texas; Jan Graham, Attorney General of Utah; Jeffrey L. Amestoy, Attorney General of Vermont; Darrell V. McGraw, Jr., Attorney General of West Virginia; and James E. Doyle, Attorney General of Wisconsin.

cc: Senate Committee on Environment and Public Works

Mr. OXLEY. Thank you.

Our next witness is Mr. Martin McHugh from the New Jersey Department of Environmental Protection.

STATEMENT OF MARTIN J. McHUGH

Mr. MCHUGH. Good morning, Mr. Chairman and members of the subcommittee. Thank you for this opportunity to testify on issues regarding natural resource damages under Superfund.

I direct the Office of Natural Resource Damages for the New Jersey Department of Environmental Protection. This testimony is presented on behalf of the State of New Jersey, and the Association of State and Territorial Solid Waste Management Officials.

While CERCLA was established primarily to clean up hazardous sites, it also provides for the ability to complete the cleanup process by allowing for the restoration of our country's natural resources injured by these sites. The goal of CERCLA's natural resource damages provisions is restoration, that is, restoration, replacement

[2] National Oceanic and Atmospheric Administration, Advance Notice of Proposed Rulemaking, Appendix I—Report of the NOAA Panel on Contingent Valuation, 58 Fed. Reg. 4601, 4602 (Jan. 15, 1993).

or acquisition of the equivalent of public resources injured by hazardous releases. While the CERCLA cleanup program uses remediation to abate the contamination to protect public health and the environment, the CERCLA Natural Resource Damage program completes the task by restoring the use of public resources.

States have an obligation to ensure the protection and restoration of waters, fisheries and wildlife, first off, from a strict public health and conservation standpoint.

Second, they have a legal responsibility as trustees to administer natural resources held in trust for the benefit of the public. The CERCLA natural resource damage provisions codify this obligation to be stewards.

A third reason is the major role that healthy natural resources have in every State economy. For instance, in 1991, New Jersey experienced over $630 million in retail sales to fishermen alone and had a total of over $1.26 billion associated with all wildlife resource-related activities. Many local and regional economies are dependent on healthy, natural resources, and it is clear that States, industry and citizens all benefit from restoration.

New Jersey and ASTSWMO believe that the existing Natural Resource Damage program is achieving the restoration goal. Now, I am going to focus on our suggestions for 5 primary improvements to ensure its cost-effectiveness and success.

The first improvement has to do with the statute of limitations. The current statute of limitations has generated confusion in litigation and should be amended. Ambiguities exist because of vague statutory language and the fact that claims are tied to the various promulgation dates of the DOI regulations. This can force trustees to file premature claims prior to an understanding of the true nature of an injury.

It can also force trustees to forfeit restoration of public resources at many sites. We believe that an amendment to CERCLA should state that claims for damages must be brought within 3 years of the completion of the damage assessment. This would cure the current problems and prevent unnecessary litigation.

The second improvement has to do with integrating the natural resource damage process into the remedial process. Now, this can be done by integrating natural resource damage assessment into the remedial investigation and feasibility study process, RI/FS. Addressing natural resource damages issues early on in the RI/FS accomplishes four objectives: It decreases transaction costs, it helps decrease ultimate NRD liability at a site, and it will provide finality that responsible parties desire at the end of the RI/FS process. Finally, it will promote more timely and cost-effective restoration, which is a shared goal by both industry and trustees.

The SARA amendment to CERCLA prohibiting the use of the fund for NRD assessment work should be amended to provide that NRD be integrated into the remedial process for the benefit of all the stakeholders.

The third improvement has to do with access to Superfund for NRD assessments. CERCLA originally provided that Superfund could be utilized by trustees to assess damages to natural resources and to conduct restoration activities.

However, the same SARA amendment currently hindering EPA cleanup coordination with trustees is also limiting the trustees' ability to conduct assessment work. Experience to date has proven that the trustees, with limited funding, are able to meet their objectives. But the process would be improved for everyone if Superfund moneys were made available for assessments.

The fourth improvement is the need for regional restoration planning. New Jersey supports revisions to CERCLA to provide the ability of trustees to pool separate settlements for regional restoration planning. Regional restoration planning is a comprehensive approach to combine smaller-scale restoration efforts at a number of sites to accomplish an overall regional restoration goal. It provides trustees and responsible parties with the flexibility to either go off-site and replace or to settle monetarily.

The final improvement that I would like to discuss is the need for additional expedited assessment techniques. Simplified or expedited assessment techniques are valuable tools that help minimize transaction costs and promote timely settlements. This benefits the responsible party by reducing transaction costs and the public since restoration can be initiated sooner.

Last, New Jersey and ASTSWMO strongly support the retention of retroactive liability for natural resource damages, the continued ability to pursue all lost-use and non-use values associated with natural resource damages, and we strongly urge Congress to resist efforts to further cap or limit damage claims per site as has been suggested.

Thank you, and I will be happy to answer your questions.

[The prepared statement of Martin J. McHugh follows:]

PREPARED STATEMENT OF MARTIN J. MCHUGH ON BEHALF OF THE ASSOCIATION OF STATE AND TERRITORIAL SOLID WASTE MANAGEMENT OFFICIALS

Mr. Chairman and members of the committee: Thank you for this opportunity to testify before the Subcommittee on issues regarding the natural resource damage provisions of the current Superfund Statute. I am Marten J. McHugh and I direct the Office of Natural Resource Damages for the New Jersey Department of Environmental Protection. This testimony is presented on behalf of Robert C. Shinn, Jr., the Commissioner of the New Jersey Department of Environmental Protection and the Association of State and Territorial Solid Waste Management Officials (ASTSWMO), a non-profit association representing the collective interests of waste program directors of the nation's States and Territories.

New Jersey and ASTSWMO both provide a unique perspective for the discussion of natural resource damages and Superfund reauthorization. In New Jersey, Commissioner Shinn oversees the cleanup of contaminated sites and serves the role as the State's designated trustee for natural resources pursuant to CERCLA and the Oil Pollution Act of 1990. As the Chief of the Department's Office of Natural Resource Damages and the representative of Commissioner Shinn in his trustee capacity, I will discuss the experience of New Jersey's program for natural resource damages and restoration. As the Chairman of ASTSWMO's Natural Resource Damages Task Force, I will describe the issues of importance to other States during this reauthorization process.

Superfund is a subject of great interest and importance to the State of New Jersey and ASTSWMO. A geographically small, yet densely populated State, New Jersey currently has the greatest number of contaminated sites on the National Priorities List (NPL). The outcome of this debate is therefore critical to both New Jersey's citizens and New Jersey's natural resources.

ASTSWMO's diverse state membership has always reflected current trends and developments in State and federal initiatives to address waste issues. As such, ASTSWMO established its Natural Resource Damages Task Force which encompasses representatives from State agencies that deal with the damage assessment and restoration issues on a daily basis. The creation of this Task Force underscores

the significance States attribute to the nationwide efforts to pursue restoration of injured natural resources under CERCLA.

New Jersey and ASTSWMO share in Congress's and the public's desire to achieve effective and timely cleanup of our ration's contaminated sites and the restoration of injured natural resources. We thank you for recognizing the importance of the State perspective in this Superfund debate.

BACKGROUND

CERCLA was enacted by Congress to address the threats to the public and the environment posed by the legacy of improper handling and disposal of hazardous substances at contaminated sites throughout the country. While CERCLA was established primarily to clean up these sites, Congress had the foresight to enable government agencies to "complete" the cleanup process by providing for the ability to *restore* natural resources injured by these sites. Hence, the CERCLA natural resource damage provisions are compensatory and their goal is to "restore, replace or acquire the equivalent" of public resources injured by hazardous releases. CERCLA Section 107(f)(1). The rationale for creating these provisions is based on the actual use value and intrinsic public value of natural resources, such as fish, wildlife, lands and waters, and the fact that releases from contaminated sites can injure these resources from the time of the discharge through the cleanup, and sometimes for many years after. Toxic releases leaching from hazardous sites close public parks and swimming areas, restrict or preclude the use of lakes, rivers and streams for fishing and boating, prevent the consumption of fish and shellfish from bays and waterways, threaten public water supplies, degrade and destroy wildlife habitat and harm many species directly: obstructing public access to wildlife such as ospreys and bald eagles. Congress, therefore, recognized the need for natural resource damage provisions because while a CERCLA cleanup can successfully eliminate or isolate the contamination and reduce the threat to human health, it may not be able to adequately restore the public's injured resources. The CERCLA cleanup program employs remediation to abate the contamination in order to protect public health and the environment from further harm. The CERCLA natural resource damage program uses restoration to compensate the public for the loss of injured public resources for the full time period of impact: from the time of discharge to the time of restoration.

STATE INTEREST/ROLE IN NATURAL RESOURCE DAMAGES

The CERCLA cleanup program conceived by Congress requires the costs of the remedy be borne by those responsible for the contamination. New Jersey and ASTSWMO continue to support this approach and its consistent application with respect to natural resource damage liability.

While the states have an obligation to ensure the protection and restoration of waters, fisheries, and wildlife from a strict public health and conservation standpoint, States also have a legal responsibility for these resources as trustees. Specifically, the concept of State trusteeship for natural resources derives from the common law public trust doctrine which has been interpreted to impose upon the States an obligation to administer the natural resources that are held in trust, for the benefit of the public. The CERCLA provisions for natural resource damage and restoration codify the States' responsibility to be stewards for their citizen's natural resources and States are working to that end. New Jersey's damage assessment and restoration program for example, grew out of necessity after several unfortunate spills in 1990 that resulted in the discharge of over one million gallons of oil into the New York/New Jersey harbor. As of 1993 the Environmental Law Institute estimates that half of the States are currently active in addressing the restoration of natural resource injuries.

In addition to their legal obligation as trustees, however, each State also has additional motivating factors for addressing natural resource restoration: natural resources play a significant role in every State's economy. Tourism dollars and direct State revenues are very dependent on functioning natural resources. For example, in 1991, New Jersey experienced approximately $630 million in retail sales to fishermen (i.e., sporting goods, boating stores, gasoline stations, and retail food establishments). Fishing alone accounted for 16,754 jobs, salaries and wages in the range of $402 million and State tax revenues of approximately $50 million. New Jersey's economic gain also yielded an additional $46 million in Federal income tax revenues. Coupled with the economic benefits of other wildlife resource related activities (hunting, boating, birdwatching... etc.), New Jersey experienced a total influx of approximately $1.26 billion in wildlife natural resource related sales in 1991. Other States experience similar beneficial effects and many local and regional economies

are dependant on natural resources. Unfortunately, many contaminated sites throughout the country currently prevent tourists from accessing or utilizing such resources, devastating local economies and impacting our national economy. Thus, in terms of the economy, it is clear that States, industry and citizens all benefit directly and indirectly from healthy natural resources.

THE CURRENT NATURAL RESOURCE DAMAGE PROGRAM

The natural resource damage program is relatively new, as are the complex tasks of injury assessment and restoration. Much of the information currently being offered during the Superfund reauthorization debate which is critical of State and federal NRD programs is based on the early experiences of both trustees and industry. This has resulted in misconceptions about how natural resource damage and restoration programs are currently working with industry and functioning today.

Natural resource trustees are not filing claims at every site, and they are also not always seeking monetary damages at sites that warrant restoration. In many situations, trustees are seeking to have responsible parties perform restoration projects to compensate for identified injuries to resources. This cost-effective initiative involves minor trustee oversight of the restoration and reimbursement for trustee assessment and oversight costs.

Many of the natural resource damage settlements to date are not the result of trustees pursuing claims, but the outcome of trustees working with responsible parties so they may completely resolve Superfund liability at a site. Some State trustees, such as Texas, use State law to mediate a case before considering litigation.

While the overall natural resource damage program has been labeled the "sleeping giant," the United States General Accounting office data indicates that most of the settlements involving the federal trustees have been valued at less than $200,000 and state trustees have settled only 17 CERCLA claims not jointly filed with the federal trustees. These state settlements ranged from $36,000 to $6.9 million (seven of these settlements were for approximately $1 million). Furthermore, many settlements involved relatively small payments or no payment at all in cases where a restoration project was performed by the responsible party.

It is important to note that State and Federal trustees are mandated under federal law to coordinate their efforts. As such, double recoveries for an injury are expressly prohibited by the statute. Furthermore, trustees also make use of the restoration provision allowing for both "replacement" and acquisition of equivalent, and it is simply not true that trustees actively or consistently require restoration to an onsite baseline beyond the conditions that exited prior to a release.

Through restoration, the natural resource damage program can continue to be successful in attending to the affects of contamination that cleanup programs cannot address.

RECOMMENDATIONS FOR IMPROVING THE NATURAL RESOURCE DAMAGES PROCESS

New Jersey and ASTSWMO offer the following comments on methods to improve the natural resource damages process and ensure this future success for the public.

1. Statute of Limitations

One of the most critical issues for State trustee is the current statute of limitations and the controversy it is causing for both trustees and industry. The current provisions in sections 112(d)(2) and 113(g)(1) of CERCLA state that except for sites on the National Priorities List or otherwise scheduled for a remedial action, a claim for natural resource damage must be "commenced within 3 years after the latter of the following: (a) The date of the discovery of the loss and its connection with the release in question," or (b) the date on which the natural resource damage regulations are promulgated pursuant to CERCLA section 310(c). Each of the two provisions is ambiguous and it has generated confusion, disagreement and litigation. Many interpretations can be applied to what constitutes the "discovery of the loss" and "its connection to the release." Compounding the problem is the second provision, which is based on the numerous dates for the various sections of the DOI NRD regulations promulgated over the last nine years (the Type B rules in 1986, the first Type A rules in 1987, the "final" full rule in 1994 and changes to the Type A pending).

The problems caused by these ambiguities could place the trustees in the difficult position of having to file premature claims for damages, prior to trustee understanding of the true nature of the injury that is gained through the damage assessment process. In the alternative, inconsistent application of the Statue of Limitations could also force trustees to forfeit important claims at many sites and thereby fail to achieve responsibility of the goal of restoration of public resources.

We believe that an amendment to CERCLA that requires the trustees to bring claims for damages within three years of the completion of the damage assessment would cure the current ambiguities, ensure that public resources will be restored and, prevent unnecessary litigation.

2. The Integration of the NRD and cleanup Processes

New Jersey believes that there is a tremendous opportunity for congress to significantly improve the NRD program aid positively effect the whole cleanup process under CERCLA by integrating natural resource damage assessment issues into the remedial investigation and feasibility study process (RI/FS). Addressing natural resource damage issues early on in the RI/FS process will not only decrease transaction costs, it will help to decrease ultimate damage liability at a site and provide the finality that responsible parties desire. Integration fosters a remedy selection process that is more cognizant of avoiding potential impacts to resources onsite and the potential opportunities for "building restoration into the remedy" during construction. This facilitates prompt resolution of NRD issues as part of overall settlement at a site and, thus, more timely and efficient restoration: a shared goal of trustees and industry.

It has been the experience of the trustees that the cleanup/restoration process becomes unsatisfactory for everyone when natural resource damage assessment concerns are not addressed early on or throughout the cleanup process. In such cases, trustees are brought into the process after the RI/FS is completed and sometimes after the Record of Decision (ROD) is selected. Having the trustees enter the process at the time, or when responsible parties and cleanup agencies have nearly completed negotiations for the settlement of remediation costs, is a legitimate concern. This is not a good situation for the trustees, the responsible parties or the cleanup agencies and this is how natural resource damage assessment is perceived as the stumbling block to settlements, and how trustees appear uncoordinated and inefficient. It is then often mistakenly assumed that trustees prefer to enter the cleanup process "late in the game," when in reality the trustees are as equally frustrated by the current process as the regulated community. Trustees desire to be involved in the process early, preferably at the start of the remedial investigations.

Trustees attempt to get involved early, seeking coordination with EPA through the Biological Technical Assistance Group (BTAG) and Coastal Resource Coordination (CRC) programs. This has met with limited success due to a statutory provision that is helping to cause a barrier to coordination. Section 517 of SARA which amends section 9507(c)(1) of the Internal Revenue Code limits the use of Superfund to address NRD. As such, EPA is unable to expend significant effort on issues of NRD with the trustees. CERCLA should therefore be amended to remove this restriction and require that NRD be integrated into the remedial process for the benefit of the responsible parties, the cleanup agencies and the general public who will gain from more timely and efficient restoration of injured resources.

One of the benefits which accrue when trustees are consulted during the RI phase is that data necessary to address NRD can be obtained with little additional effort and cost, while staff are mobilized in the field. This eliminates the need for trustees to go back and reopen the investigation or require the responsible parties to do so, causing increased costs, negotiation holdups and potential litigation. During the FS phase, the trustees can aid in the selection of a remedy that will not further cause compensable injuries to natural resources. For instance if a treatment system must be constructed at a site, it should be located and designed to minimize harm to nearby natural resources, such as fisheries or wetlands. When trustees are able to consult with cleanup programs and responsible parties early on, they can identify these kinds of potential NRD issues.

NRD in the FS phase can also present creative opportunities for engineering restoration directly into the remedy in order to offset identified damages. For example, in the case of wetland injuries, clean organic material excavated from necessary construction activities on one part of a site can be used to reduce restoration costs associated with creating new wetlands elsewhere. It may also be possible at some sites to design surface water collection systems to channel waters to adjacent wetlands restoration projects to increase the success and habitat value, at little or no cost to the responsible party. Finally, one project in New Jersey involved engineering wetlands directly into the cap of a solid waste landfill. This kind of project may be applicable at some hazardous sites to build restoration directly into the remedy and reduce overall liability. These are the common sense and creative approaches that trustees are seeking through early involvement, in order to meet their restoration obligation and settle NRD matters effectively and efficiently.

3. Use of Superfund for coordination and assessment of natural resource damages

Congress originally intended that Superfund be utilized by trustees to assess damages to natural resources and conduct restoration activities. This was expressly provided for in section 111c (1) and (2). However, just as the SARA amendment to the internal revenue code is preventing EPA coordination with trustees, the lack of funding also limits trustee ability to conduct the collection of information, even in those instances when some coordination with cleanup programs is possible. Again, this prevents trustees from performing the work necessary to bring closure to a case where responsible parties want to settle CERCLA liability with a covenant not to sue from the trustees. This further substantiates our support for an amendment to allow use of Superfund to address natural resource damages, to enable trustees access to funds for assessment activities.

Despite current limitations and contrary to critic of the program, State and federal trustees have managed to live up to the CERCLA mandate to coordinate with each other on damage assessments and restoration. For example, in Texas, the three State trustee agencies have drafted and are in the process of entering into a memorandum of agreement with the federal trustees (NOAA and DOI) which ensures coordination. New Jersey operates in a similar manner with a less formal NRD team approach, where NOAA, DOI and the State take responsibility for particular sites and spills, keeping one another informed while representing all trustee interests until it is time for full participation as settlement draws near or a claim needs to be filed. These approaches help to reduce assessment and transaction costs and provide industry with one point of contact for natural resource damage issues. Considering the settlements thus far, certain State trustees with limited funding have proven they are able to coordinate, but the process would be improved for all States if Superfund monies were available for assessments.

4. The need for Regional Restoration Plans

New Jersey supports revisions to CERCLA to provide for the ability of trustees to pool separate settlements in order to undertake regional restoration planning which will benefit responsible parties and make restoration more effective. Regional restoration planning is a comprehensive approach which combines smaller scale restoration projects to accomplish an overall regional restoration goal. It provides the trustees and responsible parties with the flexibility to go off site, if necessary, to use smaller recoveries to "replace and acquire the equivalent" of lost services in other parts of a watershed, estuary or aquifer. For example, New Jersey, New York, NOAA and DOI have worked together to draft a regional restoration plan for the oil spills that occurred in the NY/NJ harbor to accomplish comprehensive restoration by identifying potential restoration projects that are not separate, but complementary in this large riverine/estuarine system. NOAA's proposed rule under OPA currently allows for such regional restoration planning.

Regional restoration also has the benefit of enabling the trustees to provide a menu of restoration opportunities to responsible parties who wish to settle monetarily by helping to fund a comprehensive restoration effort. To date, the focus of most CERCLA restoration planning has typically been site-specific, in part due to a narrow interpretation of the provisions of Section 107(f). There are many instances where an individual Superfund site is but one contributor to the degradation of an ecological unit such as a stretch of river or an entire watershed, and it may be difficult to design and implement a restoration plan which is effective in such instances. Developing separate restoration plans for a number of relatively small settlements is intuitively less cost-effective than, where feasible, combining such settlements and applying the funds toward a more regional restoration planning effort or towards a regional restoration plan which has already been developed. The lack of statutory language explicitly allowing such an approach is hindering its usage.

5. The development of expedited assessment techniques

At this time the Department of Interior damage assessment rules provide only two types of approaches to assessment: the simplified Type A model approach and the comprehensive Type B procedure. The Type B procedures are reserved for complex sites or discharges and they include a range of scientific an economic methodologies that trustees may apply on a site-specific basis to determine the injury and compute damages. The Type A model was developed to meet CERCLA's mandate for standard procedures for simplified assessments usually requiring minimal field observation.

While the Type A model has generally met the trustees' needs with respect to oil spills in marine systems, it is usually inapplicable to discharges associated with hazardous sites. Expedited or simplified assessment methodologies have been criticized by the regulated community which contends they are based on a lack of site

specific information. New Jersey and ASTSWMO disagree with this contention and endorse the use of such techniques when appropriate. While techniques such as he Type A model incorporate scientific research and data collection already performed, they are not meant to achieve the same level of scrutiny as an exhaustive and expensive slate of studies. Models are tools that get parties to a starting point, from which a small additional amount of investigative effort can be performed if necessary to corroborate the model's prediction.

Simplified or expedited assessment techniques are valuable tools that help minimize transaction costs and promote more timely settlements. This benefits both the responsible party by reducing overall NRD liability, and the public in general, as restoration is initiated sooner. Therefore, New Jersey and ASTSWMO endorse further development of simplified damage assessment techniques, such as habitat equivalency analysis, as an essential part of the damage assessment process under CERCLA.

NEW JERSEY AND ASTSWMO COMMENTS ON VARIOUS NRD PROPOSALS NOW UNDER DEBATE

In addition to our proposed recommendations for improvements to the NRD process, we would like to provide the States and ASTSWMO's view on other proposals which have surfaced in the debate on NRD and Superfund.

1. Elimination of Retroactive Liability.

CERCLA was designed to address the environmental threats of mishandled, hazardous substances and existing contaminated waste sites. There are numerous pre-1980 sites that have continuing effects in terms of public health and natural resource injuries. The proposal to preclude all CERCLA liability for disposal that occurred pre-1980 is strongly opposed by New Jersey and ASTSWMO. It follows that it is equally unacceptable to limit the application of NRD to exclude all pre-1980 sites since it would shift the responsibility for restoration, or the costs and effects of the damage without restoration, onto the public for some of our worst sites. It is important to note that CERCLA liability for natural resource damages is already limited since claims can only be pursued for releases prior to 1980 that cause a continuing injury. Thus, if a release at a site and any resultant damages occurred wholly before 1980, natural resource damage claims are precluded. However, if releases at a site occurred pre-1980 and the release continued to injure natural resources after 1980, trustees could address the damage. The trustees are further limited by the fact that, unlike the strict liability for cleanups under CERCLA, trustees must be able to first document confirmed injuries before they can officially bring a claim.

The hundreds of pre-1980 sites that pose potential continuing harm to public resources warrant the retention of retroactive liability. Erasing liability for releases which occurred prior to 1980, would in essence serve to eliminate all natural resource damage claims for pre-1980 sites. State programs would be unable to accomplish restoration at these sites and questions surrounding the time of disposal would cause increased litigation.

2. Elimination of Lost use and Non-use Values Associated with Natural Resource Injuries.

Natural resource damage assessment is the process of evaluating losses that may flow from an injury to, destruction of, or loss of a public resource. While the definitions of destruction and loss are clear, injury has been interpreted to mean that some reduction of services that would normally have been provided by the resource are now no longer provided as a result of the release. Trustees evaluate these losses and monetize them by calculating a damage figure to be presented to responsible parties to obtain funding for restoration projects or in the alternative, gauge the level of restoration to be performed by the responsible party. It is therefore necessary to maintain trustee ability to value all of the losses associated with a release to restore and compensate for the full injuries to public resources.

The level of compensation pursued to achieve restoration is based on three components: 1. the cost of restoration 2. the past losses associated with the resource injury and, 3. any future losses due to continuing harm. Past and future losses encompass the total loss.

The total loss associated with an injured public resource may result from both direct losses and indirect losses. Direct losses are the actual injuries to a resource plus any loss of services provided by those resources. For instance, the public suffers a direct loss when a release harms a fishery and prevents fishermen and/or the general public from their catch because of reduced populations or the placement of restrictions on the fishery. The direct loss is therefore the biological injury, along with the true measurable loss the public experiences in the interim: from the time of the

release to the time the fishery is restored to prerelease conditions (referred to as interim lost use). CERCLA reflects Congress' intent to address the full range of direct losses to account for the damages associated with the initial injury and the resulting impacts based on the public's inability to actually use or access the injured resource during the interim period before restoration.

Indirect loss, otherwise known as "non-use" or "passive" loss is determined by the value that society places on the existence of a resource that has been harmed. While the common example is the value Americans attribute to a national park such as Yellowstone or our national symbol, the bald eagle, indirect values apply to other less obvious examples. Indirect loss should not be confused with direct loss. CERCLA authorizes trustees to pursue both indirect losses and direct losses in order to facilitate a level of restoration necessary to compensate the public for harm to natural resources.

Indirect losses may not always result when a resource is injured. When indirect loss is a significant part of the damage to the public, the tool most appropriate to measure this loss is contingent valuation methodology (CVM). The use of sophisticated and expensive surveys has traditionally been reserved for cases where there are extraordinary resource injury circumstances and a compelling public logic to the need for compensation.

CVM has been used by economists for over twenty-five years in many contexts and more recently it has been used by agencies to assess the benefits and cost of various public policies. As such, CVM was not developed solely for use in the natural resource damage assessment process. The use of CVM for natural resource damage assessment was supported by a panel of Nobel Laureate economists engaged by NOAA to set standards for its use. While the state and federal trustees do not routinely conduct CV surveys, (current information indicates only four CVM studies have been applied to natural resource damages pursuant to CERCLA), it is the only accepted tool for measuring passive use losses for those appropriate situations involving extraordinary harm to public trust resource losses and should be maintained.

3. Capping natural resource damage claims.

As stated previously, NRD has been described as the "sleeping giant" of the Superfund program. As such, a proposal has been developed to further restrict liability by reducing CERCLA's current cap which stands at $50 million *per release* to change to $50 million *per site*. This proposal would undermine the significant State, federal and tribal trustee efforts already expended at a small number of extremely important sites requiring substantial natural resource restoration such as the 120 mile stretch of river basin at the Clark Fork River site in Montana, the expansive estuary of Los Angeles and Long Beach Harbor site and the Coeur d'Alene Idaho Site. These and other sites of similar status involve multiple releases associated with many types of activities over long periods of time. Hence, the total costs to restore these areas could likely surpass a $50 million per site cap and shift the burden to the public thereby rewarding responsible parties at some of our nation's worst sites.

The rationale for the original focus on "releases" is that many large Superfund sites involve multiple releases that can potentially impact large quantities of natural resource especially sites located near sensitive areas such as rivers, beaches or estuaries. The current cap was originally established in 1980 when Superfund money was available for assessment *and* restoration. We believe the intent of the cap was to protect the limited fund money. In 1986, with the SARA amendments, the use of the fund for NRD assessment and restoration was precluded. Thus, since the fund is no longer tapped for either the costs of assessment or restoration, the cap is no longer serving its original purpose. Because the primary goal of CERCLA's NRD provisions is *restoration*, it is important that the Congress not limit the trustees and cleanup agencies from obtaining sufficient funds to accomplish this task by perpetuating an arbitrary cap that is no longer appropriate.

CONCLUSION

As States are fast becoming the primary implementors of hazardous waste laws in this country, I hope that ASTSWMO's and New Jersey's recommendations will be given serious consideration during this 104th congressional session. We are available to assist the Subcommittee as you continue your deliberations on this important aspect of CERCLA reauthorization. Thank you for your consideration and I will be happy to answer any questions you may have.

Mr. OXLEY. Mr. Keith Meiser from CSX Transportation, Incorporated.

STATEMENT OF C. KEITH MEISER

Mr. MEISER. Thank you.

Good morning, Mr. Chairman, and members of the subcommittee. My name is Keith Meiser and I am senior counsel with CSX Transportation, Inc. I am speaking today on behalf of my company, but my remarks also reflect the concerns of some 200 potentially responsible parties, PRP's, that are involved in the Berks Superfund site in Berks County, Pennsylvania. My focus is a natural resource damage claim asserted by Pennsylvania against the PRP's at the site and the abuse of the natural resource damage process that this claim represents.

We believe that Pennsylvania's assertion of this claim may signal an alarming trend by States to use natural resource damage claims at Superfund sites to raise revenues that a State can spend as it sees fit on projects that have little to do with the Superfund site or any remediation associated with it.

By way of background, the Berks site is located near Reading, Pennsylvania and borders the Schuylkill River. Beginning in 1941, Berks Associates, Inc. collected waste oil and solvents, reclaimed them by distillation and sold the reclaimed oil and solvent as a substitute for virgin materials. For much of its 40-year history, the Berks' reclamation operation was considered to be state of the art, and it received oil from throughout the Mid-Atlantic region.

The Berks' reclamation process generated distillation sludges and resulted in the disposal of hazardous substances in lagoons on various parts of the site, which was consistent with industry practice at that time. The parties who contributed oil to the site and are now PRP's in the ongoing Berks cost recovery litigation, are a broad and diverse group, which includes, as the largest contributor of oil, the Federal Government, as well as Delaware and Maryland agencies and towns, a wide variety of large and small companies, such as car dealerships and gas stations, and nonprofits like the Milton Hershey School for Boys. The Commonwealth and the United States initiated enforcement proceedings against Berks Associates as early as 1970, but concluded that it was in the public interest to keep the facility open.

The facility therefore operated under a variety of agreements supervised by the United States or the Commonwealth. Thus, not only was the Commonwealth well aware of the facility's operations at least as early as 1970, but it could have shut down the facility many years before it actually closed in 1985 had it been seriously concerned that the facility's operations were causing environmental problems.

EPA initiated remedial activities with an April 1982 site investigation which led to listing of the site on the CERCLA National Priorities List. Thereafter, EPA issued a series of records of decision governing the cleanup, with the Commonwealth concurring in each.

Significantly, Pennsylvania was expressly concerned in the last 1989 ROD, which called for additional capping and the incineration of sludges contained in one of the lagoons at an estimated cost of

$50 to $100 million. However, that ROD required no groundwater remediation because it found that the groundwater at the site had no effect on drinking water wells or the adjacent Schuylkill River.

Despite its concurrence in the 1989 ROD, Pennsylvania sought, in October 1993, to intervene in the ongoing Federal Superfund cost recovery action to assert a claim for natural resource damages based on what it characterized as residual contamination that would be left in the soils and groundwater at the site after the 1989 ROD remedy was fully implemented.

The Commonwealth focused on the most extreme alternative identified in the 1989 ROD, which would have cost $565 million for soils and $19.5 million for groundwater. However, EPA had, with Pennsylvania's concurrence, rejected this as extremely costly for little additional benefit.

Pennsylvania's assertion of natural resource damage claims at this juncture violates the binding nature of its concurrence in the Federal remedial decision and undermines the finely crafted Federal/State relationship in Superfund remedy selection. It also imposes a difficult decision on the Berks' PRP's of whether to contest the Commonwealth's natural resource damage claim, or pay to settle it.

However, given Pennsylvania's demands, a settlement below 7 figures is unlikely. Further, Pennsylvania has recently raised the stakes by threatening to initiate a $500,000 natural resource damage assessment and seek reimbursement from the PRP's absent a settlement in the near future. The PRP's would also be required to fund a shadow assessment to provide a check on the possibility that the State-sponsored assessment would come up with widely speculative damages.

At the same time, Pennsylvania has made it clear that whatever money it recovers on its natural resource damage claim will, in fact, not be used to address the residual contamination at the Berks site. If Pennsylvania's theories are accepted, State natural resource damage claims become what amounts to a multimillion dollar surcharge at any Superfund site.

The money might not go towards a greater level of cleanup or restoration of natural resources at a Superfund site, as Congress seemed to intend, but could be diverted to other projects that a State thinks might be nice for the greater community in which the Superfund site is located.

In sum, the Commonwealth's assertion of the natural resource damage claim at the Berks site demonstrates how easily the natural resource damage provisions in the current law can be misused.

I thank you for your time, and I would be happy to answer any questions.

[The prepared statement of C. Keith Meiser follows. Exhibits referred to are retained in the subcommittee files.]

PREPARED STATEMENT OF C. KEITH MEISER, SENIOR COUNSEL, CSX TRANSPORTATION, INC.

Good Morning, Mr. Chairman and members of the Subcommittee. My name is Keith Meiser, and I am a Senior Counsel with CSX Transportation, Inc. I am speaking today on behalf of my company. CSXT, as a long-time operator of railroads, is a party at a number of Superfund sites based on disposal of oil at a time when this was perfectly legal. My remarks also reflect the concerns of some 200 potentially

responsible parties ("PRPs") that are involved in the Berks Superfund site in Berks County, Pennsylvania. The focus of my testimony is on a natural resource damage claim that the Commonwealth of Pennsylvania has asserted against the PRPs at this site and the abuse of the natural resource damage process that this claim represents. We believe that this claim, which is the first the Commonwealth of Pennsylvania has asserted in a Superfund action, is a harbinger of an alarming trend by states to use natural resource damage claims at Superfund sites to raise revenues that the state can spend as it sees fit on projects that have little to do with the Superfund site or any remediation associated with it.

SITE HISTORY

Before turning to the specifics of Pennsylvania's claim, let me give you a short history of the Berks site. This 50-acre site is located near Reading, Pennsylvania and borders the Schuylkill River. Beginning in 1941, Berks Associates, Inc. collected waste oil and solvents and distilled them. The reclaimed oil and solvents were then sold as a substitute for virgin materials. For much of its more than 40-year history (up to 1985), the company ran what was considered to be a state-of-the-art reclamation operation, and it received oil from businesses throughout the mid-Atlantic states. Its operations resulted in the disposal of oil processing sludges and other wastes on various parts of the Site, particularly in several lagoons.

THE COMMONWEALTH'S ROLE IN KEEPING THE SITE OPEN

For at least 15 years before its closure in 1985, Berks Associates continued to operate under the auspices of both a Federal court and the Pennsylvania Commonwealth Court, based on injunctive relief sought respectively by the United States and the Commonwealth to require cleanup of the Berks lagoons. Significantly, in November 1970, Pennsylvania sought a continuance of the Commonwealth Court proceedings (Docket No. 186, 1970) to join in and support the federal enforcement action; it stated to the Court that:

> [W]e have made available to the United States Attorney's office our records, our experts and our legal staff to aid in the preparation and presentation of the federal case.

Transcript of Commonwealth Court testimony by Pennsylvania, *see* Exhibit A hereto, at 4. The Attorney General also told the Commonwealth Court that a general continuance was warranted because "the effect of the current federal order is essentially to accomplish what the Commonwealth seeks...." Exhibit A hereto, at 4.

Shortly thereafter, the United States agreed to keep the facility operating and entered into a consent decree with Berks Associates on December 3, 1970. (Copy attached as Exhibit B). That decree stated in part:

> WHEREAS, the GOVERNMENT recognizes that it is in the best interest of the public to maintain the operation of Berks because such operation is of substantial benefit to the public welfare in eliminating waste oil which constitutes a threat to public health and in recovering millions of gallons of pure oil, the loss of which would deplete the natural resources of the GOVERNMENT.

Thus, the Commonwealth and the United States concluded with court approval that the continued operation of the facility was in the public interest. Thereafter, there were periodic additional actions by the United States or Pennsylvania resulting in consent agreements or consent orders with Berks Associates, which regulated continued operation of the facility. Thus, not only was the Commonwealth well aware of the facility's operations at least as early as 1970, but it could have shut down the facility many years before Berks actually ceased operation in 1985, had it been seriously concerned that the facility's operations were causing environmental problems.

THE BERKS PRPS

Over the four decades of its operation, Federal entities were the primary customers of Berks Associates. According to the former president of Berks, during long periods of the company's operation, as much as 50% of the volume of waste oils and solvents sent to the facility for reclamation came from Federal agencies. Although no Pennsylvania Commonwealth entities have been identified to date as having sent materials to the Site, it is likely that they too would have used this facility, because Berks had attracted customers throughout the mid-Atlantic area, including Maryland and Delaware state entities.

Further, the federal Superfund case, which was initiated in 1991 by the United States, involves a large number of small parties. The defendants in that case filed a third-party complaint in 1992, identifying as PRPs Delaware and Maryland agencies, a wide variety of large and small companies, like car dealerships and gas stations, as well as towns and cities, public schools, and non-profits, like the Milton Hershey School for Boys.

Further, the large majority of generators of oil processed by Berks remain unidentified and unknown as of this day. Based upon a reconstruction of Berks Associates records, it appears that the identified PRPs represent less than 20% of the volume of waste oil and solvent sent to the site. The remainder is from as yet unidentified or insolvent parties.

SUPERFUND SITE HISTORY

The Superfund activities surrounding the site commenced in April 1982 with EPA's site investigation. The Site was placed on the CERCLA National Priorities List in September 1983. In 1985, EPA issued a remedial investigation/feasibility study identifying ground water and soil contamination at the Site. EPA's September 1985 Record of Decision ("ROD") recommended certain soil removal and the containment of waste. EPA also issued a June 1988 ROD, directing certain remediation at the processing facility and tank farm. Pennsylvania concurred in both the 1985 and the 1988 RODs without any express or implied reservations as to natural resource damage claims. (The Commonwealth's letters of concurrence dated September 24, 1985 and June 23, 1988 are attached as Exhibits C and D respectively.)

On June 30, 1989, EPA issued a third ROD. On June 29, 1989, the Commonwealth expressly concurred in the remedial action specified in this ROD. (Copy attached at Exhibit E.) This ROD called for additional capping and the incineration of sludges contained in one of the lagoons, which EPA now estimates will cost in excess of $50 million to implement. The PRPs believe the true cost could easily be double this number. Significantly, however, the 1989 ROD was explicit in requiring no groundwater remediation, because it found that the groundwater at the site had no effect on drinking water wells or on the adjacent Schuylkill River. The 1989 ROD is quite clear on this point, stating:

- "No residential wells in the area have been contaminated by the site." (1989 ROD at 19.)
- "The plume of contaminated groundwater is not affecting residential wells which are located hydraulically upgrading from the site." (*Id.*)
- "The data do not indicate that discharge of contaminated groundwater is affecting the River." (*Id.*)
- "The effect of groundwater discharge in the Schuylkill River is insignificant at the present time and is expected to remain so in the future". (*Id* at 30.)

PENNSYLVANIA'S NATURAL RESOURCE DAMAGE CLAIM

Despite its repeated concurrence in EPA's RODs, particularly the 1989 ROD, in October 1993 the Commonwealth filed a motion to intervene in the ongoing Federal Superfund cost recovery action to seek natural resource damages for what it characterized as residual contamination that would be left in the soils and groundwater at the site after the 1989 ROD remedy was fully implemented. Memorandum in Support of Pennsylvania's Motion to Intervene (Exhibit F) at 3-5. The motion and accompanying complaint, which were directed at a subgroup of the original defendants named in the United States' Superfund action, are at Exhibit F. In its moving papers, Pennsylvania cited the disparity in cost between the alternative selected, with State concurrence, in the 1989 ROD, and the most extreme remedy identified in the ROD (*i.e.*, excavation and off-site incineration) *id* at 3-5, which EPA had, under applicable Superfund principles, rejected as very costly and providing little additional benefit. The Commonwealth observed that the cost of implementing this remedy for the soils would be $565 million and for groundwater $19.5 million. Subsequently, it suggested that these figures were conservative, since they were predicated upon 1989 estimates.

Pennsylvania now takes the position that its concurrence with the 1989 ROD was "conditional" and did not foreclose it from bringing a natural resource damage action predicated upon the residual contamination. This position is contrary to the Commonwealth's legal obligation under CERCLA to either accept or reject the proposed remedy in the 1989 ROD. Section 121(f) of CERCLA provides for state involvement in remedy selection and a procedure for a state to contest any remedy in which it does not concur. There is no provision for the conditional concurrence Pennsylvania now claims. However, if states are allowed to conditionally concur in

Superfund remedies and then assert natural resource damage claims directly related to the remedy, it will have a severe impact on the Superfund program and pervert the carefully crafted role of states in the remedy selection process.

CONSEQUENCES

Following the Pennsylvania approach, in any instance where residual contamination is left in groundwater or soils, apparently regardless of whether the land is privately owned, a state could claim natural resource damages over and above any Superfund remediation. This could occur at every Superfund cleanup, since some level of residual contamination is left in groundwater or soils at every Superfund site, regardless of how much money is spent on the cleanup.

As a consequence of Pennsylvania's action, the Berks' PRPs are facing a difficult decision of whether to contest, at substantial expense, the Commonwealth's claim or instead pay some amount of money to settle it. Settlement talks are ongoing, and the Commonwealth's demand has been reduced considerably from the almost $600 million figure cited in the context of its Motion to Intervene. Despite the severe reservations that they have with the Commonwealth's claim on a number of grounds in addition to the 1989 concurrence, the Berks PRPs are considering settling to avoid the transaction costs and risks associated with the litigation. At this point, though, a settlement of less than seven figures is unlikely. Recently, raising the stakes, the Commonwealth has threatened that, absent a settlement, it will shortly initiate a natural resource damage assessment, at a projected cost of $500,000, a cost the PRPs may ultimately have to bear. The Commonwealth's initiation of a natural resource damage assessment would also trigger the need for the Berks PRPs to fund a "shadow" assessment to provide a check on the possibility that the Pennsylvania-sponsored assessment would arrive at wildly speculative damages, consistent with the Commonwealth's natural resource damage claims in this case.

At the same time, Pennsylvania has made it clear that whatever money it recovers on its natural resource damage claim will *not* be used to address the residual contamination at the Berks Site. Indeed, it has no intention of disturbing the 1989 ROD remedy. Instead, the money will be used to buy allegedly "equivalent" resources in the general area of the Site to compensate the public for the supposed losses the residual contamination causes.

We believe the Commonwealth's claim demonstrates how easily the natural resource damage provisions in the current law can be misused. If Pennsylvania's theories are accepted, state natural resource damage claims of this sort could become what amounts to a surcharge at any Superfund site. In addition to paying tens of millions of dollars to clean up the typical Superfund site, potentially responsible parties would be faced with paying millions more to address questionable natural resource damage claims. The money might not go towards a greater level of cleanup or restoration of natural resources at a Superfund site, but could be diverted to other projects considered nice or good. This is hardly what Congress intended in authorizing natural resource damage claims.

We ask Congress to view the natural resource damage program with skepticism and realize how easily its broad authorities can be subverted to create artificial claims with a consequence of saddling the regulated community with even greater costs than those imposed under Superfund for engaging in activities that were perfectly legal at the time they occurred. This is particularly true for the Berks PRPs, who were doing the environmentally right thing by recycling their waste oils and solvents, rather than simply dumping them in nearby streams and rivers, which was in fact the commonly accepted alternative disposal method at the time.

I thank you for your time and I would be happy to answer any questions.

Mr. OXLEY. Our next witness is Mr. Kevin L. McKnight from Alcoa.

STATEMENT OF KEVIN L. McKNIGHT

Mr. MCKNIGHT. Thank you, Mr. Chairman.

I manage environmental remediation projects, including natural resource restoration for the Aluminum Company of America. Alcoa is a member of the Coalition for NRD Reform.

The NRD program must be reformed before it bankrupts industry and the government. Fifteen years ago, no one would have believed that today the average Superfund cleanup would cost more than $30 million. And no one imagined that the Department of En-

ergy alone would have potential cleanup liability of more than $300 billion, not including NRD liability.

Today, as more sites move toward resource restoration, the post-cleanup phase of Superfund, we are on the threshold of a problem that may make the cleanup side of Superfund pale by comparison. Claims like those filed in Coeur d' Alene, Idaho, $1.6 billion; Clark Fork River, $635 million; L.A. Harbor, $1 billion; the Berks case that Mr. Meiser just talked about, $550 million, would bankrupt most companies.

Not only does this have a potentially devastating impact on America's business, but I suspect that your colleagues on the Budget Committee would be startled to learn of the potential NRD impact on the Federal Government.

Cleanup costs to date at the Clark Fork River sites have exceeded $200 million and Alcoa has committed even more money to cleanup of that site, and the NRD claims have been assessed at that same location in the amount of $635 million. If the ratio of money spent to date to the NRD claim is applied to DOE, for instance, the NRD claims against DOE would approach $1 trillion for just one government agency. We understand that the government has not even assessed their potential NRD liability yet. Unfortunately, industry is not able to do that.

Congress intended the NRD program to restore injured public resources. Instead, the NRD program has become punitive, not restorative. This has been caused by a number of things.

First, trustees demand unrealistic and unnecessarily costly restoration measures that seek to recreate the exact landscape that existed before development.

Second, trustees assert surplus recoveries for so-called lost-use and non-use values. Such recoveries are over and above any amounts needed for restoration, replacement or acquisition of equivalent resources. And government regulations continue to promote the use of damage assessment techniques, like contingent valuation methodology, which have been condemned by most experts in the field.

Third, government agencies use NRD money, not for restoration, but for unrelated projects and administrative overhead.

And four, trustees exploit ambiguities in the statute to retroactively declare that 100-year-old actions are to be judged by today's standards. It is like asking people today to comply with laws which will not be enacted until 50 years in the future.

This Congress must fix the NRD program by returning it to its original intended purpose, namely, restoring, replacing and acquiring the equivalent of injured natural resources. We propose the following amendments: (1) Congress make clear that NRD liability is not retroactive so people who complied with the laws of yesterday are not punished by standards created today; (2) the NRD program be designed to restore damaged, lost environmental functions, not replace the landscape that existed before industrialization; (3) the NRD program be restorative, not punitive, and that lost-use and non-use damages, including contingent valuation methodology, be proscribed; and (4) that damages be based on the most reasonable and cost-effective method of restoring, replacing and acquiring the

equivalent of injured resource functions; and (5) that Congress restore the intended $50 million per site cap on NRD damages.

Mr. Chairman, if we do not make reforms to the NRD program, NRD threatens to bankrupt American industry and create tremendous financial liabilities for government agencies, such as the Departments of Energy and Defense.

I just want to speak for a moment about Mr. Hall's comments regarding the Blackbird Mine case. Blackbird is a wonderful example of what is wrong with the NRD program. Mr. Hall touted Blackbird Mine as an example of a reasonable and cost-effective restoration of resource functions. The facts just do not support that characterization.

Blackbird Mine was a cobalt and copper mine that operated between 1917 and 1967 near Panther Creek in Eastern Idaho. Historically, Panther Creek did provide spawning habitat for as many as 2,000 chinook salmon. Today, however, there are no salmon in Panther Creek. The reason, and the trustees acknowledge that this is the case, is that there is a series of Federal hydroelectric dams in the region and the trustees acknowledge that 90 percent of the reason why the chinook salmon aren't there is because of the commitment of this resource to Federal hydroelectric dams.

However, the trustees have required that the PRP's undertake extensive watershed restoration activities that will restore 200 chinook salmon to the Panther Creek area. Although the trustees characterize the work as necessary to enable the recovery of the habitat, it will not return Panther Creek to its natural carrying capacity because of the dams.

Instead, the project is tailored to enable the recovery of just 200 fish and the project will cost $70 million. That is an average of $400,000 per fish. They didn't even consider the possibility of restoring habitat in some other area which would have been much more cost-effective and much more economically feasible.

Thank you, Mr. Chairman.

[The prepared statement of Kevin L. McKnight follows:]

PREPARED STATEMENT OF KEVIN L. MCKNIGHT, MANAGER, ENVIRONMENTAL REMEDIATION PROJECTS, ALUMINUM COMPANY OF AMERICA, ON BEHALF OF THE COALITION FOR NRD REFORM

INTRODUCTION

Alcoa appreciates this opportunity to appear before the Subcommittee and to comment on our concerns about the natural resource damages (NRD) program under CERCLA. I speak on behalf of Alcoa and the Coalition for NRD Reform, of which Alcoa is a member along with ARCO, ASARCO, Exxon, FMC, Ford, Fort Howard, General Electric, General Motors, Georgia-Pacific, Mobil, Montrose Chemical, Philips Electronics North America Corporation, Southern Pacific, Texaco, USX, the American Forest Products Association, and the American Petroleum Institute.

American businesses, both large and small, as well as federal, state, and local governments, are increasingly being confronted with liabilities for NRD. The damages sought are over and above any monies asserted for cleanup. Whereas no one imagined fifteen years ago that the average cleanup would costs tens of millions of dollars, the additional claims for NRD are even more sobering, in some cases running to hundreds of millions of dollars. In a number of cases, trustees have threatened claims in excess of a billion dollars. Claims of this magnitude can bankrupt most companies, cause severe strain on municipal entities, and sorely stress the shrinking budgets available to address the myriad concerns at federal installations.

And to what end? Experience with the program to date shows that the NRD program is being twisted beyond recognition. The underlying basis for many NRD

claims typically bears no relation to the reasonable restoration goals and important limitations which Congress established for the NRD program in 1980:

- First, trustees often pursue unrealistic and unnecessarily costly restoration measures as the basis for damages.
- Second, trustees assert large recoveries in addition to restoration costs, based on speculative claims of economic loss alleged to have been suffered by private parties. This money, however, is collected and spent by government trustees as they see fit without further appropriation.
- Third, trustees are using ambiguities in the statute to render meaningless the limits on liability that Congress intended. Many of these cases involve claims that should not have been brought in the first instance because they are predicated on pre-CERCLA conduct. Still others, as the numbers indicate, involve claims that far exceed the $50 million statutory cap on total damages in a given case.

Not surprisingly, such extravagance has precipitated highly adversarial proceedings, millions of dollars in wasteful transaction costs, and long delays that have impeded prompt restoration in appropriate cases.

Legislative changes are needed now to refocus the NRD program on its essential objective of prompt, realistic, and cost-effective restoration, replacement, or acquisition of equivalent resources. This subcommittee has already recognized and is working to correct the serious flaws in the current cleanup program under CERCLA. Without significant parallel reform of the emerging NRD program, that important work may be lost by allowing trustee agencies use the NRD program to bypass cleanup program reforms and renew overreaching cleanup agendas in the guise of NRD.

THE NRD PROGRAM HAS A LIMITED FOCUS

When Congress enacted CERCLA in 1980, its primary goal was to redress ongoing threats to public health and the environment by ensuring cleanup of harmful pollution. At the same time, Congress designed a more limited system of liability for injury to public natural resources. Congress authorized federal, state and tribal trustees to restore injured public resources and required responsible parties to assume financial responsibility for such restoration.

At the outset, it is important to understand that the damages sought by NRD trustees are in addition to the cleanup costs recovered by EPA or state cleanup authorities. Although many of the predicates for NRD liability are similar to the cleanup program liability is strict, the same range of actors are potentially liable, the same general defenses apply—the NRD program contains some important differences and limitations in scope:

- Congress limited damages recovery to (1) the costs of restoring, replacing, or acquiring the equivalent of an injured resource and (2) a trustee's reasonable costs of assessing damages.
- Congress barred retroactive liability.
- Congress established a $50 million limit on each claim for NRD.
- Congress prohibited the filing of claims for NRD at NPL sites until after a remedy has been selected.

The statute also provides for the development of damage assessment regulations. Trustees who assess damages in accordance with damage assessment regulations issued by the Department of the Interior enjoy a rebuttable presumption in subsequent litigation to recover NRD. The statute also requires trustees to spend NRD recoveries to restore, replace or acquire the equivalent of injured natural resources, but trustees may retain and expend such recoveries free of the normal budget process.

Until fairly recently, the NRD program was not very active. But following the *Exxon Valdez* case, where trustees recovered nearly $1 billion in NRD under the Clean Water Act, many trustees have begun to press NRD claims in a highly aggressive fashion. Historically, several dozen NRD claims have been resolved through judgment or settlement at the federal level. The number of claims now being pursued or threatened by federal, state, and tribal trustees is increasing as trustee understanding of the program and appreciation of the potential liability bonanza grows. There is accordingly good reason to regard NRD liability as an awakening "sleeping giant."

GROSS OVERREACHING HAS OCCURRED IN IMPLEMENTATION OF THE NRD PROGRAM

In their zeal to obtain NRD recoveries, trustees have pushed the envelope of the NRD program by:

- using hypertechnical interpretations of the existing statute to eviscerate the prohibition on retroactive liability for pre-CERCLA conduct and the statutory $50 million cap on liability that Congress intended;
- seeking damages based on unrealistic restoration measures that attempt to replicate a given resource's exact pre-injury condition, rather than pursuing more cost-effective ways of restoring significant ecological functions which provide corresponding benefits to the public, including replacement or acquisition of substitute or equivalent resources and allowing natural recovery to work;
- asserting claims based on restoration measures that are inconsistent with the cleanup actions selected or sought by EPA or state cleanup authorities at the same site, resulting in additional cost and delay and threatening defendants with double recovery;
- seeking, when dissatisfied with a cleanup action selected by one of the cleanup agencies, to use natural resource damages authority to leverage more stringent, potentially conflicting, and unscientific cleanup agendas in the guise of "restoration";
- attempting to obtain recoveries in addition to restoration and reasonable assessment costs, based on asserted losses of so-called "use" and "nonuse" value.

The problem with these excesses is compounded by the fact that trustees do not always use NRD recoveries for restoration, replacement or acquisition of alternative resources. Instead, monies have been kept to pay for research and other ongoing bureaucratic functions. This creates a strong financial incentive for trustees to maximize recoveries for reasons unrelated to the purpose of restoration, replacement or acquisition of alternative resources.

In light of these developments, industry understandably views the current NRD program much the same as the punitive damage system under tort law. The *threat* of enormous, arbitrary, unpredictable liability acts as a lever to ratchet up the costs in every case in which NRD claims are asserted. At a number of major sites, trustees assert multi-million and billion dollar "bet-the-company" claims that are wholly unjustified by legitimate restoration objectives. Yet, the legal uncertainties that make such claims possible, make them a dangerous threat to the financial viability of even very large companies.

But large industry is not the only group affected. Recent cases have also involved substantial claims against municipal entities such as cities and public sanitation districts, seeking to hold them accountable for millions of dollars in NRD based on historic waste disposal activity. Moreover, at least one suit has already been filed against the federal government alleging NRD at a DOE facility. With DOE alone facing hundreds of billions of dollars in clean-up costs, it is not difficult to imagine the budget impact of unbounded, retroactive of NRD liability—including surplus recoveries for supposed economic losses—across DOE's portfolio of federal facilities. The potential exposure of DOD, and even DOI, would add significantly to that burden.

Finally, NRD is also an issue of increasing significance for the wide range of entities, large and small, involved in typical CERCLA cleanup cases. NRD claims have been made without any focused scientific or technical analysis of injury, causation, or restoration requirements. Some trustees seek to take advantage of the fact that, more often than not, PRPs will agree to pay the NRD claims to foreclose having to defend unbounded, arbitrary claims later on. This practice borders on extortion.

KEY ELEMENTS FOR REFORM

The Coalition for NRD Reform believes that the basic purpose of the NRD program—to restore, replace or acquire the equivalent of public natural resources that are injured as a result of post 1980 conduct—is a sound policy. If this purpose is to be achieved Congress must enact changes in CERCLA. We propose five basic reforms in order to place the program back on the track of securing prompt, realistic restoration.

First, trustees should be required to select restoration measures that restore memorable and significant ecological functions in injured public resources. Surplus claims for so-called "lost use" and "non-use" damages *on top* of restoration and assessment costs should be eliminated. Such claims have generated enormous controversy, cost, and delay, and are inconsistent in both principle and practice with the basic goal of restoration.

Second, damages should be based on the most reasonable and cost-effective method of restoring, replacing, or acquiring equivalent resources.

Third, Congress should make clear that NRD liability is not retroactive, restore the intended $50 million cap on NRD liability, and ensure that double recoveries are effectively prohibited.

Fourth, trustees, who by law have a self-interest in the outcome of the litigation, should be required to prove their claims in court on the same basis as any other government or private plaintiff, and should not be able to claim a presumption in favor of damage claims in which they have a financial interest.

Fifth, CERCLA restoration measures should be consistent with CERCLA cleanup actions, and vice versa. Measures used by a trustee to restore, replace, or acquire the equivalent of an injured, destroyed, or lost natural resource should not be inconsistent with response actions selected under the cleanup program, or amount to response actions that would not be permitted under the cleanup program. In addition, EPA and other remediation agencies should not be able to select response actions that are, in effect, resource restoration actions that would be precluded under the NRD program.

Each of these principles and the specific problems they address are discussed below.

1. The Program Should Be Refocused on Restoring, Replacing, or Acquiring the Equivalent of Ecologically Significant Functions of Injured Public Natural Resources

A. *Replication of the Physical, Chemical, Biological Properties of the Resource is not Needed to Restore, Replace or Acquire Equivalent Resources.* CERCLA explicitly states that NRD recoveries are to be used to restore, replace, or acquire the equivalent of injured, destroyed, or lost resources. Congress' authorization of these different means of redressing resource injury clearly indicates its intent not to require the replication of the precise physical, chemical and biological *properties* of the particular resources that existed prior to the release of hazardous substances. Replacement or acquisition of alternatives obviously would not replicate specific properties, but such measures would serve to restore the *functions* formerly provided by a public natural resource. Accordingly, it is necessary to look to the functions that the injured, destroyed, or lost resource would have provided absent the release of hazardous substances.

To illustrate the distinction between the properties of a resource and its functions, assume that a release of a hazardous substance has contaminated a river, substantially reducing the population of a particular fish species that provides a popular recreational fishery in the area. In this case, the resource function that has been injured is the recreational fishers. Assume also that, as a result of the cleanup of the stream, the fish will recover naturally over time, but the process may take a considerable time. Accordingly, some restoration measures might be taken in order to re-establish the recreational fishery. Actions to return the steam to its precise original condition by eliminating all traces of contamination (i.e. replication of properties) will not in most cases be necessary to restore the significant ecological function of the resource—i.e. the fishery. The function of the fishery may be restored by introducing other fish from a nearby hatchery, or even by enhancing another type of fishery and increasing public access to it during the period in which the fish population at the affected site recovers naturally.

Moreover, resource functions that are to serve as the basis for NRD liability should be measurable and ecologically significant. Examples of significant impairment of resource functions would include the permanent destruction or significant long-term declines in populations or other long-term injury to basic ecosystem processes that provide benefits to the public. Those resource functions that play a significant role in such ecosystems should form the basis for damages.

Yet, experience demonstrates that trustees often base restoration on the complete removal of historic contamination whose effects are trivial and do not adversely affect significant ecological functions. In the *Montrose* case, for example, trustees have been seeking NRD from a municipal sanitation district and several companies. The claims for damages are based on pre-CERCLA discharges through the municipal sewer treatment plant outfall of contaminants that have settled several hundred feet below the ocean surface in the sediments on the Palos Verdes Shelf. The trustees earmarked as much as $957 million for a massive sediment remediation program to redress alleged injury to two species of fish (the white croaker and kelp bass) and to the California sea lion, notwithstanding the fact that empirical data gathered by the government indicated that neither fish species has suffered population level impacts, and that sea lion populations have expanded dramatically since the 1920's (from an estimated 1000 animals then to over 110,000 today). The fact that the sediments are contaminated does not, in and of itself, mean that there has been ecologically significant injury, and therefore should not alone compel affirmative restoration actions giving rise to liability for NRD.

To take a somewhat different example, the well-known chemical spill into the Sacramento River in July 1991 caused relatively large, but short term impacts—sub-

stantial mortality to fish and aquatic organisms in the river and adverse effects to river edge vegetation. These effects ceased within several weeks of the spill. Natural recovery of life forms began immediately, and continued dramatically and without interruption, from August 1991 to the present. At the time of the accident, the river was a significant recreational fishing resource which had been heavily stocked with trout each year since at least the mid-1930's. After the spill, the river very quickly developed the capacity to support stocking once again and the resumption of fishing. However, the state and federal trustees refused to restore the central function of the resource by restocking river and reopening the fishery. Instead, the trustees proceeded to conduct massive studies of ecologically insignificant effects for the purposes of maximizing their damages claim. This included detailed assessment of affects of the spill on crayfish, mollusks, and large stone flies, none of which had any bearing upon the capability of the river system to support a healthy fishery or proved to have any relation to prespill abundance. This also included studies to assess the alleged losses in use and nonuse value which were ever-increasing during the period of time that the trustees resisted establishing a relatively inexpensive and timely plan to restore the significant ecological function of the injured resource—re-establishment of the fishery.

> Congress should limit damages to those needed to restore, replace, or acquire the equivalent of the measurable and ecologically significant functions of public natural resources that have suffered actual injury, destruction, or loss. Public natural resources are those resources that, at the time of the act of disposal giving rise to liability, were either subject to a public use or a planned public use for which there is a previously authorized and documented legal commitment.

B. Recovery of So-called "Lost Use" and "Non-use" Damages Is Not Necessary to Restore, Replace or Acquire the Equivalent of Injured, Destroyed, or Lost Natural Resources and Should Be Prohibited. Under CERCLA, the purpose of liability for natural resource damages is to provide a source of funds that will be used to restore, replace or acquire the equivalent of the injured, destroyed, or lost natural resources. Accordingly, the measure of damages is based on the costs of the chosen method of restoration, and CERCLA explicitly requires that all damages recovered be spent solely for this purpose. Yet, trustees routinely seek surplus recoveries for so-called "lost use" and "non-use" values. By definition, such damages are over and above the amount needed for restoration, replacement, or acquisition of equivalent resources.

We acknowledge that the loss of the use of a resource may sometimes result in private harm to one or more individuals. We do not argue with the right of such individuals to seek damages for the harm they have suffered in a civil case brought under applicable state law. For example, commercial fishermen may seek damages for economic losses resulting from destruction of a fishery. However, *public trustees* are not charged under CERCLA with recovering, and should not be able to recover, damages designed to compensate *individuals.* The trustees' role is to make the public whole by making the harmed environment whole—and that is done initially through cleanup, and then, if cleanup is insufficient to restore ecological function, then by restoring, replacing, or acquiring the equivalent of injured, destroyed, or lost natural resources. Any specific, private injury that may have been suffered by one or more individuals may be the basis for a damage claim, but such a claim is the province of, and should be brought under, applicable state law by the individual claiming to have been harmed. Notably, lost use and non-use recoveries are not used to compensate the individuals who supposedly suffered the losses, but instead are used simply to enlarge trustee recoveries beyond what is necessary to cost-effectively restore the injured resource. These principles are reflected in the debate over the passage of CERCLA.

In 1980, Congress considered and rejected proposals that would have authorized a new federal tort action for a wide range of economic losses, including those relating to loss of use of resources, or other harms suffered by private individuals related to hazardous substance releases. Significantly, none of these proposals even mentioned the concept of "non-use" losses. When Congress rejected a cause of action for economic loss, there was no suggestion that it did so because it wanted government trustees to collect for such losses in the place of the people who allegedly suffered the loss. Rather, Congress determined that the proper state law and state courts provided the proper forum for recovery of economic losses associated with releases of hazardous substances. Accordingly, the concept of the right of government trustees to recover for such "use" and "nonuse" losses, over and above recovery of restoration and assessment costs is strictly an invention of administrative rulemaking, not federal legislation.

"Non-use" values are a particularly inappropriate and fundamentally flawed basis for NRD liability. In theory, non-use value is the monetary value people assign to

a resource that they may never have used in the past, never intend to use in the future, and with which they are often completely unfamiliar. It includes the value people attach to knowing that the resource exists (existence value) or that it will be available to future generations (bequest values).

In practice and as a matter of sound policy there are two basic objections to basing NRD liability on "non-use" values. First, as noted above, any "non-use" interest in the existence or long term preservation of a resource following injury is fully addressed through cleanup and restoration. Thus, additional liability based on non-use value is a form of punitive liability or double recovery. Second, it is impossible to accurately, reliably, and, objectively quantify the "nonuse" value of a resource. Some economists have attempted to measure non-use value through a highly controversial and experimental application of a public opinion polling technique known as the contingent valuation methodology (CVM). In a CVM poll, randomly selected members of the public are asked *hypothetically* how much money they would be willing to pay to preserve or restore a given resource. It does not matter whether they have ever used the resource, or even have heard of it, prior to being contacted by the survey administrator. After eliciting responses from a few hundred or thousand people in shopping malls, through the mail, or over the phone, the consultants who conduct the surveys take the average dollar response and multiply it by whatever they consider to be the relevant population—maybe the state in which the resource is located, maybe the entire United States. The result is called the non-use value of the resource.

As mentioned above, the average member of the public may never have heard of the resource—such as a particular subspecies of gull—that they are asked to value. Asked in a shopping mall to place a hypothetical dollar figure on the "non-use" value of something that they have never heard of, many people will respond with the first number that comes to mind and move on. Others, realizing that the question is purely hypothetical and perhaps wanting to express a generalized concern for the environment, will respond with a generous-sounding figure. The most sophisticated respondents will realize that the purpose is to ascertain how much *someone else* should pay, and therefore be generous with someone else's money.

CVM generates grossly inflated figures. For example, one survey attempted to measure the non-use value of preserving whooping cranes. The result was *$32 billion per year*. In contrast, annual giving in the U.S. to all environmental causes amounted to only $2.5 billion in 1991. This disparity illustrates one of the fundamental problems with CVM, that survey respondents don't have to back up their responses with real money. Thus, their responses bear no relation to what they would *actually* pay to preserve the specific resource.

In a great many cases, CVM results are simply random. In some cases, it has been shown that there are huge variations depending on the tone or the precise wording adopted by the interviewers. In other cases, respondents fail to attach a higher value to a large quantity of a resource than to a small quantity. For example, in one CVM study, people said that they would pay the same amount to protect 2,000 birds as they would to protect 20,000 or 200,000 birds. This contradicts a fundamental rule of economics, not to mention common sense.

Recently, a panel of distinguished economists was convened by the National Oceanic and Atmospheric Administration (NOAA) to assess the reliability of CVM. This panel stated that not a single one of the numerous contingent valuation surveys of non-use value done over the past dozen years meets minimum standards of validity and reliability. Furthermore, EPA's Science Advisory Board recently reviewed one so-called state-of-the-art CVM study, but found it to be seriously flawed and unreliable. Nevertheless, CVM continues to be used as the basis for damage claims in a number of cases.

Experimental case-by-case development and use of CVM through the litigation of NRD claims based on "non-use" values generates wasteful transaction costs and also delays actual restoration. Even basic CVM surveys can cost a million dollars or more and take years to design and complete. Each party may commission its own studies and reviews, and employ its own experts to explain to a factfinder whether this particular CVM study has at last overcome the reliability barriers to admissibility and why its figures are correct and those of opposing parties are wrong. Imposing major liabilities through such a process is no better than rolling dice to determine damages, yet it is enormously more expensive, cumbersome, and time-consuming. By diverting scarce resources of time and money to expensive contests between lawyers, it also precludes accomplishment of the primary objective of the NRD program—restoration, replacement, or the acquisition of the equivalent of injured, destroyed, or lost public natural resources.

Basing liability on CVM surveys also creates bad incentives. Public trustees and industry alike are forced to focus on "non-use" damage assessments. Trustees are

driven by financial self-interest or compelled by public expectations to pursue this potentially huge component of damages. A potentially responsible party is compelled to dedicate significant resources to combating this enormous, speculative liability. The inevitable result is protracted controversy, high transaction costs, and diversion of energies and resources from the basic objective of timely restoration, replacement, or acquisition of equivalent resources.

We strongly urge that Congress prohibit public trustees from recovering under CERCLA damages for lost use and non-use values.

2. Damages Should Be Based on the Most Reasonable and Cost-Effective Method of Restoring, Replacing, or Acquiring the Equivalent of Measurable and Ecologically Significant Resource Functions

A. *NRD Claims Should Be Based on Cost-Effective Methods.* Under the current program, there are no meaningful constraints on the amount of damages that may be assessed. Rather, trustees have an open invitation to base damage claims on infeasible and unreasonably costly projects that would attempt to replicate precise pre-injury conditions of a resource regardless of their functional significance. Congress intended NRD measures to be cost-effective, as evidenced by the statutory provision that NRD recoveries may be spent either to restore, replace, or acquire the equivalent of an injured, destroyed, or lost natural resource. By providing trustees with an array of remedial options, Congress clearly contemplated that trustees would select the most cost-effective method for restoring significant ecological functions which provide corresponding benefits to the public.

For example, a given wetland area enjoyed by the public may have been polluted. A significant ecological function of a wetland is to provide a habitat for fish and wildlife which provide associated benefits to the public such as recreational fishing or wildlife viewing.

One way to restore the ecological function is to fully decontaminate the wetland. However, it may not be possible to return the wetland to its precise prerelease condition without enormous expenditures to remove residual low-level contaminants. Instead, a similar, nearby private wetland that provides all of the functional benefits to the public of the first wetland and that is slated for development may be acquired and preserved at far lower cost. Yet, based on experience in several cases to date, some trustee agencies would demand that the original wetland be returned to the condition that it was in prior to the pollution, despite the enormous extra cost of doing so. As a result, excessive and wasteful claims can occur, leading to costly and cumbersome litigation.

Trustees have recently touted the Blackbird Mine case as an example of reasonable and cost-effective restoration of resource functions. The facts do not support this characterization. The Blackbird Mine was a cobalt and copper mine that operated principally between 1917 and 1967 near Panther Creek in eastern Idaho. Historically, Panther Creek provided spawning habitat for as many as two to three thousand chinook salmon. Today, however, no salmon return to Panther Creek. As the trustee acknowledges, this is largely the result of downstream obstructions to migration—principally the series of federal hydroelectric dams in the region. But the trustees have claimed that acid mine drainage from Blackbird Mine's pre-1967 operations reduced historical runs of chinook salmon by 200 fish. Under the terms of a recent settlement, the PRPs are required to engage in extensive watershed restoration activities to develop the physical, chemical, and biological conditions necessary for chinook salmon spawning habitat. Although the trustees characterize the work as necessary to enable the recovery of the habitat, it will not return Panther Creek to its natural carrying capacity because of the dams. Instead the project is tailored to enable the recovery of 200 fish representing the Blackbird Mine's share of the loss. The project reportedly will cost approximately $70 million, which is on top of direct cash payments of between $8.2 and $9.2 million. That amounts to nearly $400,000 for each fish. Significantly, the trustees did not select the less expensive alternative of stocking other watersheds with 200 fish, an alternative that would have provided the same basic resource functions which the trustee purportedly was trying to address: alleged commercial fishing losses.

The statute should emphasize even further that NRD claims should be based on cost-effective restoration (ie., the least costly way to restore, replace or acquire the equivalent of an ecologically significant resource function), not on replication.

B. *Natural Recovery Should Be Explicitly Recognized.* Natural recovery is an important, appropriate means to achieve the goals of the NRD program. Once contamination has been cleaned up the point that current threats to public health and the environment have been addressed (the role of the cleanup program), an injured resource often is capable of recovering naturally. When this is the case, a natural re-

covery approach is often the most cost-effective way to achieve the NRD goals, and should be employed Although Congress expressly directed that the role of natural recovery be considered, generally it is given insufficient consideration or weight as an alternative.

> The process of natural recovery should be the basis for a restoration plan where such processes will, within an appropriate period of time, cost-effectively restore the injured resource.

3. NRD Limitations in CERCLA Should Be Restored

In enacting CERCLA, Congress gave priority to cleanup in order to ensure that limited resources are spent first on redressing current threats to public health and the environment. Congress authorized natural resource damage liability in addition to cleanup liability, but placed limitations on NRD liability to reflect the residual nature of those damages, and to take into account the limited financial resources of responsible parties. This difference in priorities is reflected in various provisions of CERCLA, most notably the prohibition on retroactive liability for natural resource damages, the $50 million cap on damages, and the prohibition on double recoveries. Each of these limitations has been disregarded in the implementation of the program. Congress must act to clarify these limitations.

A. *Prospective Application of NRD.* When it first enacted CERCLA Congress provided that there would be no liability where the natural resource damages and the release of a hazardous substance which caused those damages occurred wholly before such enactment (December 11, 1980). This limitation on retroactivity is all the more salutary because retroactive liability for natural resource damages does not serve a deterrent function, and creates endless litigation.

Nonetheless, trustees have routinely ignored the requirement that NRD liability should not be retroactive by asserting claims for damages resulting from conduct that occurred prior to the enactment of CERCLA. Trustees assert that a "release" includes any continued seepage or movement in the environment of substances that may have been deposited decades or even a century ago. Moreover, even where it is clear that there have been both pre- and post-1980 releases, trustees claim damages for resource injury resulting from both releases claiming that the harm is indivisible. A responsible party may therefore be held liable for damages stretching back to a time when substances may have been legally disposed in accordance with the best practices of the day. Such liability claims are not only unfair, but also create enormously difficult and contentious litigation surrounding attempts to reconstruct the past. This completely destroys the respite that Congress intended to create for the NRD component of Superfund liability.

> Congress should clarify that natural resource damage liability should be based only on conduct occurring after the enactment of CERCLA. Thus, NRD liability should apply only to an act of disposal of hazardous substances (the release of which caused injury to, destruction of, or loss of natural resources) that first occurred after Superfund's enactment in 1980.

B. *$50 Million Cap on Damages.* Confusion over the meaning of "release" also threatens to undermine the NRD cap on damages adopted by Congress. This cap was intended to prevent grossly excessive liabilities. CERCLA provides that NRD liability shall not exceed $50 million per release or incident involving releases. This is an ample sum, considering that liability for natural resource damages is paid on top of cleanup liability which is not subject to any dollar cap.

However, as the program currently is implemented, the $50 million cap does not cover the entire area affected by contamination emanating from a facility or group of facilities. Instead, by construing seepage within the environment to be a continuing release, or by treating releases from each drum, pipe, or other sources as a separate release, trustees can aggregate an unlimited number of supposedly individual releases that in fact are all the consequence of the same conduct giving rise to liability. Such an interpretation guts Congress objective of imposing meaningful limitations on liability. If this approach is allowed to stand, Congressional efforts to reduce the cost of Superfund by reforming the remedy selection process will be swamped by virtually unlimited natural resource damage liability.

> Congress should clarify that the $50 million liability cap applies to all damages sought from all responsible parties at a facility or group of facilities for all injury to, destruction of, or loss of natural resources caused by releases from such facility or facilities in the entire area or areas affected by such releases, no matter whether the releases are instantaneous or occur over a long period of time.

C. *Double Recovery Prohibition.* CERCLA prohibits any double recovery of natural resource damages, but the wording of the prohibition is limited to double recoveries under CERCLA itself. We are not asking Congress to preempt state laws that au-

thorize the recovery of natural resource damages; however, plaintiffs should not be able to recover damages for the *same injury* ensuing from the *same conduct* under both CERCLA and other laws.

> Congress should prohibit trustees who seek natural resource damages under CERCLA from asserting overlapping and duplicative claims under any law.

4. Courts Should Treat NRD Claims In the Same Manner as Other Civil Damage Claims

A. *Trustees Should Establish Claims by a Preponderance of the Evidence.* CERCLA provided for the issuance of regulations to guide the preparation of natural resource damage assessments by trustees. Assessments conducted in compliance with those regulations are afforded a presumption of accuracy. In enacting these provisions Congress expected that the regulations would provide meaningful standards that would ensure that trustees use the best available methods and procedures to determine damages. Strong guidance could reduce costly, divisive case-by-case litigation in court over the validity of particular damage assessments.

The Department of the Interior, itself a major trustee, was given responsibility to develop regulations containing protocols and best available methods for conducting damage assessment. These regulations have failed to appropriately discipline or regulate the trustee damage assessment process. For example, the regulations do not require that restoration remedies be cost-effective or even feasible, and allow trustees broad latitude in calculating restoration costs and other elements of damages. As a result of Interior's failure to provide effective guidance to trustees, financially-self interested trustees can tote up speculative and inflated damages claims, and nonetheless assert a presumption for them in litigation to impose liabilities on defendants.

This invites wasteful, excessively costly and time-consuming assessments. The result is also fundamentally unfair. The plaintiff in a suit for damages should not be able to tote up its own damages, based on standards it has devised for itself, and be entitled to claim a presumption in court litigation. The courts should be allowed to exercise their proper function of determining the facts and applying the law in each case, and should not be required to pay special deference to trustee agency interpretations.

> Congress should require that the trustees establish all elements of a claim for NRD by a preponderance of the evidence, with no presumption as to the accuracy of an assessment performed by the trustee. Congress should require that courts conduct a *de novo* review of all evidence that satisfies the admissibility standards of the Federal Rules of Evidence. No deference should be given to trustee agency judgments.

B. *So-Called "Simplified" Assessment Methodologies Should Be Prohibited.* When Congress directed the promulgation of assessment regulations, it distinguished between site-specific assessments to be used in most cases, and so-called "simplified" assessments to be used in cases that do not require much site-specific information. The idea was to avoid performing full-blown assessments where they are not needed. Although the idea may have been attractive in principle, it has proved unworkable in practice. The Department of Interior and NOAA have committed and continue to commit significant resources of time and money to developing simplified assessment method; that are scientifically unsupported, unreliable, inaccurate, and unfair. The basic problem with their proposed approaches to simplified assessments is that they presume resource injury, causation, a need for restoration, and damages based on the mere fact of a release of a hazardous substance or an oil spill, even though no injury may have occurred and no restoration is necessary. Their approaches would therefore enable trustees to avoid having to establish key elements of the prima facie case for NRD which the statute requires. Moreover, the amount of damages computed is wholly arbitrary. Damage assessments should be based on consideration of actual site-specific conditions and restoration requirements.

> Congress should prohibit the use of so-called "simplified" methods of assessment.

5. There Should Be Consistency Between the NRD Program and the Environmental Component of the Cleanup Program

The effectiveness of NRD reform is closely related to rational reform of Superfund's cleanup program. The cleanup program addresses threats both to health and the environment. Although cleanup is not for the purpose of restoration, replacement, or acquisition of equivalent resource functions, often the line between NRD and environmental cleanup is blurred. There is a significant potential for inconsistency and overlap between these programs unless the selection of cleanup ac-

tions and the choice of NRD actions is coordinated and consistent. Unfortunately, Interior's assessment regulations do not require coordination between cleanup and NRD decisions.

As Congress revamps CERCLA, it should ensure that improvements made to the cleanup program and to the NRD program are not lost because of a failure to require consistency between the two programs. Trustees should not be able to require restoration measures that are inconsistent with cleanup actions, or to use the NRD program to finance what are, in effect, cleanup actions that could not pass muster under a reformed Superfund program. Similarly, cleanup agencies such as EPA, when making determination concerning ecological risk, should not be able to select cleanup actions that are, in effect, resource restoration actions that would be precluded under these proposed reforms of the NRD program.

A recent case provides a compelling example of trustees' growing tendency to use the NRD program for leverage. At a privately owned waste oil reclamation facility in Pennsylvania, EPA and the responsible parties were nearing completion of a $30 million settlement for groundwater contamination. EPA and the state both determined that the remedy would address any existing threat to human health and the environment. Nonetheless, the state trustee intervened in the action, seeking over $550 million in natural resource damages. This figure allegedly is what would be required to eliminate all soil and groundwater contamination. The trustee brought this claim despite the fact that EPA determined that the groundwater at the site had no effect on any source of drinking water or the adjacent Schuykill river. Absent legislative correction of the loophole presented by this case, natural resource damage liability threatens to swallow up most of the gains that might be made by reform of CERCLA's cleanup program.

> Measures used by a trustee to restore, replace, or acquire the equivalent of an injured, destroyed, or lost natural resource should not be inconsistent with response actions selected under the cleanup program, or amount to cleanup actions that would be precluded under the cleanup program. In addition, EPA and other remediation agencies should not be able to select response actions that are, in effect, resource restoration actions that would be precluded under the NRD program.

CONCLUSION

The time to fix the NRD program is now. The current NRD program fails in its laudable and essential purpose—to restore, replace, or acquire the equivalent of public natural resources that were injured, destroyed, or lost as a result of the disposal of hazardous substances after the enactment of CERCLA. Congress must enact major reforms to refocus the program on this purpose. The issues the five key reforms proposed by the Coalition for NRD Reform provide a centerpiece for reform legislation.

Beneficial reforms in other areas of CERCLA will be undercut if the existing NRD program is left in place. The NRD program is not yet as dramatically out of control as the cleanup program has become. But the NRD program has the same built in problems: the threat of overwhelming liabilities, enormous transaction costs, and long delays, all of which get in the way of the primary objective of prompt action. In the NRD context, these problems have already become serious, and give every sign of becoming much worse. Congress should take action now to prevent a repeat of the CERCLA cleanup debacle. Further, while Congress strives to prevent wasteful "gold-plating" of cleanups, recent experience establishes the very real risk that cleanup agencies will seek those same outcomes under the rubric of natural resource restoration. And while Congress strives to rectify the inequities of the current liability and financing system, the continuing threat of unpredictable and practically unlimited NRD claims could sabotage that effort.

Unless the current NRD program is fixed, it will continue to generate enormous transaction costs, but very doubtful benefit to the environment. More time will be spent in litigation, and less time in the field working to accomplish reasonable restoration. We hope that our comments and suggestions may be of help to the Subcommittee in attempting to avoid this prospect and return to the basic, laudable objectives of the NRD program.

Mr. OXLEY. Our next witness is Mr. Thomas Ginn of PTI Environmental Services.

Mr. Ginn.

STATEMENT OF THOMAS C. GINN

Mr. GINN. Good morning, Mr. Chairman, my name is Thomas Ginn and I am a principal at the firm of PTI Environmental Services in Bellevue, Washington. I am speaking today as an ecologists and a toxicologist who has been working for more than 25 years studying biological effects of both metals and organic chemicals in aquatic and terrestrial environments.

Since 1983, I have been heavily involved at Superfund sites throughout the country, including the conduct of ecological risk assessments and natural resource damage assessments.

In my testimony today, I would like to discuss some very important technical problems associated with Department of Interior's natural resource damage regulations, and these problems stem not only from several of the specific requirements of those regulations, but also from State and Federal trustees' interpretation and implementation of those regulations.

I would like to focus first on what I consider to be the most fundamental technical concern that I have with the current language of the Department of Interior regulations and that is, the use of various biological indicators, many of which are referred to as biomarkers, as well as exceedances of theoretical criteria and the use of theoretical models in the injury determination process.

Examples of some of these biological indicators include measurements at lower biological levels of organization at the cellular, enzyme analyses, such things as fish neoplasms or laboratory tests with sensitive species.

For injury determination, the NRD regulations recognize various biological responses or criteria exceedances as indicators that injury has occurred. However, the relatively general language of the regulations allows for a broad opportunity for inappropriate use of these indicators in the later phases of the NRD process, including the determination of non-use values, because many of these indicators of biological injury identified in the regulations cannot be extrapolated to quantification of effects at either the population, habitat, or ecosystem levels.

Therefore, damages that are calculated based on the use of these indicators will not equate to injuries that have actually occurred. In other words, these indicators cannot be translated into meaningful injuries that result in a reduced value of the resource to the public. And that is the key.

Such analyses have resulted, and under the present system, they will continue to result in injury estimates that are grossly uncertain and highly overstated. And this will ultimately produce damage determinations that bear no reasonable relationship to lost services provided by the injured resource or to the actual injury caused by a release.

To identify and quantify injuries and damages as efficiently and equitably as possible, I would recommend that any indicators of injury be: (1) directly relevant to the release; (2) directly relevant to the injury quantification phase of the NRDA; and (3) directly relevant to reduced services and the damage determination.

The statute should be amended to specify that the level of biological organization to be protected from injury is the population, community or ecosystem level of organization. And it is that only

services at these levels of biological organization that are compensable in a NRDA.

A second related and very contentious issue under the current NRDA regulations is the determination of causation. This is the relationship between a release of a hazardous substance and a subsequent injury. And also, the determination of baseline conditions.

As I discussed previously, trustees commonly rely on these lower-level biological indicators as evidence that an injury has occurred. But they only use this information in a very general manner.

This is a fundamentally flawed approach to determining causation because it provides no firm scientific evidence of a causal link between the source and the injury, and moreover, using this approach, damages assessed by the trustees will not bear any reasonable relationship to actual injuries caused by any particular source or discharge.

I recommend that the statute be revised to specifically require the conduct of scientifically sound analyses of causation. The burden of proof should be placed on the trustees to demonstrate that a change in natural resource populations is caused by a specific release of a hazardous substance and not by a source or other factors.

Implementation of these changes in the provisions will result in several benefits: One, the public will benefit from having very important resource services restored.

Second, the high transaction costs under the present system would be reduced.

And finally, funds would not be wasted on the restoration of activities of marginal or uncertain value and could be used elsewhere.

Mr. Chairman, I thank you for this opportunity.

[The prepared statement of Thomas C. Ginn follows:]

PREPARED STATEMENT OF THOMAS C. GINN, PH.D., VICE PRESIDENT, PTI ENVIRONMENTAL SERVICES

Good morning, Mr. Chairman and Members of the Subcommittee. My name is Thomas Ginn, and I would like to thank you for the opportunity to comment on this very important Superfund reauthorization issue. I am an ecologist and toxicologist with more than 25 years of experience studying the biological effects of metals and synthetic organic chemicals in aquatic and terrestrial environments. My scientific specialty is in the use of field-collected biological measurements and laboratory toxicity tests in assessing effects of chemicals on biological communities. Since 1983, I have had extensive experience at Superfund sites, especially in conducting ecological risk assessments and Natural Resource Damage Assessments (NRDAs). I am currently a Principal at PTI Environmental Services, a private environmental consulting firm headquartered in Bellevue, Washington.

In my testimony today, I would like to discuss three particularly important technical problems associated with the U.S. Department of Interior's NRDA regulations (43 CFR Part 11). These problems stem not only from several of the specific requirements contained in the regulations themselves, but also from state and federal Trustees' interpretation and implementation of those regulations. My comments will focus first on problems associated with determining when an injury to a natural resource has occurred, and the link between this activity and the injury quantification and damage determination phases of the NRDA process. Next, I will highlight several difficulties inherent in establishing the cause of an identified injury or the link between a release of a hazardous substance and the injury, and similarly, the problems associated with defining baseline conditions. Finally, I will address the importance of identifying appropriate restoration alternatives upon which to spend recovered damages. Based on these comments, I will provide recommendations for modifications to the Superfund statute and, subsequently, to the NRDA regulations that will help streamline the damage assessment process and enable appropriate compensation for injuries to natural resources.

INJURY DETERMINATION AND QUANTIFICATION AND DAMAGE DETERMINATION

I would like to focus first on the most fundamental technical concern that I have with the current language of the DOI regulations and the interpretation and implementation of those regulations by state and federal Trustees: that is, the use of biological indicators, many of which are referred to as biomarkers, as well as exceedances of theoretical criteria derived from such indicators in the injury determination process. Examples of these biological indicators include measurements at lower levels of biological organization such as cellular or enzyme analyses or laboratory tests of some sensitive species. This problem is confounded by the subsequent reliance on these results in the injury quantification and damage determination phases of an NRDA. I will contrast these ambiguous measurements with more appropriate measurements that are directly related to the resources being evaluated, such as the abundance of fishes.

The assessment of natural resource damages is a three-phase process. In the first phase (injury determination), the injured resource is identified and a link to the release of the hazardous substance is established. In the next phase (injury quantification), reductions in natural resource services that have resulted from the injury are quantitatively compared to services provided under baseline conditions. In establishing the magnitude of aninjury to a biological resource, the regulations state: "[t]he extent to which [an] injured biological resource differs from baseline should be determined by analysis of population or the habitat or ecosystem levels" (43 CFR § 11.71(l)(1)). Finally, in the third phase (damage determination), the Trustees assign a dollar value to the services determined to have been lost as a result of resource injury.

For injury determination, the NRDA regulations explicitly or implicitly recognize various biological responses or criteria exceedances as indicators that an injury to natural resources has occurred. Certain other indicators, particularly additional biological responses, may be used as indicators of injury if identified acceptance criteria are met (43 CFR § 11.62(f)(2) and (f)(4)). Examples of indicators determined to have satisfied the acceptance criteria include *in situ* bioassays, laboratory toxicity tests, fin erosion, fish neoplasms, and cholinesterase enzyme inhibition. However, the relatively general language of the regulations allows a broad opportunity for inappropriate use of these indicators in later phases of the NRDA process because many of the indicators of biological injury identified in the regulations cannot be readily extrapolated to quantification of population-, habitat-, or ecosystem-level effects. Moreover, the indicators do not enable the quantification of lost resource services provided at the population-, habitat-, or ecosystem-levels of biological organization, as is required during the subsequent injury quantification phase. Similarly, in many cases, indicators selected for use by Trustees as evidence of injury cannot be readily equated to monetary damages. Therefore, damages that are calculated based on the inappropriate indicators of injury will not appropriately equate to injuries that have actually occurred. In other words, these indicators cannot be translated into meaningful injuries that result in a reduced value of the resource to the public.

A few examples will serve to illustrate how the types of indicators or criteria exceedances identified as acceptable in the injury determination phase of an assessment might be inappropriately applied. While certain sublethal indicators, such as changes in enzyme function in an exposed organism, may be linked to exposure to many hazardous substances, it does not necessarily follow that the biological response itself has in any way jeopardized or compromised the local population of that organism or the services provided by that population to other biological resources or humans. Similarly, relying on pathological changes at the cellular level in an exposed organism as evidence of injury is also inappropriate in most cases because quantification of those injuries at a population level may be nearly impossible. There is little direct evidence, for example, that pathological lesions observed in the livers of fish exposed to hazardous substances ultimately lead to the death of the fish, and even less evidence that there are any population-level effects.

Mortality of a sensitive test species that is exposed to a hazardous substance in the laboratory is commonly relied on by Trustees as an indicator of injury. However, even mortality may not give us a quantifiable injury or result in a meaningful ecological impact in actual field situations. Furthermore, in the case of a species such as aquatic insects, decreased numbers of one species may be compensated for by increased growth of other less sensitive species, such that the overall availability of food organisms to a higher species, such as fish, is unaffected. Hence, the resource of economic importance (that is, fish) may not necessarily be injured. In addition, many organisms are capable of responding rapidly to the mortality of a fraction of the population. For example, fish populations exposed to constant fishing pressure may respond with increased reproduction, increased survival or growth of the unaf-

fected individuals, or both, such that the overall population size is unaffected. Fish exposed to other natural and anthropogenic stressors may respond in a similar manner. These so called density-dependent compensatory mechanisms are well understood by fishery biologists, but are ignored in most NRDAs. Again, it is effects to the population that are relevant to the injury quantification and, ultimately, the damage determination phases of the assessment. A focus on theoretical or laboratory derived biological indicators will not get us there and is, in fact, counterproductive to the damage assessment process.

With the availability of increasingly sensitive laboratory techniques, it is relatively easy to demonstrate that an organism has been exposed to hazardous substances. However, it is much more difficult to demonstrate that a change has occurred in the population level of a resource species, which again is explicitly required by the regulations for use in the injury quantification phase. Therefore, Trustees tend to focus on the quick and dirty laboratory techniques or theoretical comparisons, rather than assess true population-level effects on important resource species.

Finally, while exceedances of available numerical criteria may suggest the possibility of biological injuries, it is well-known that many species develop a tolerance to concentrations of hazardous substances above such criteria if they are chronically exposed to such concentrations. In addition, to be useful in the injury quantification phase, exceedances of numerical criteria must be linked to population-level injuries and reductions in the services provided by that population. My experience has been that theoretical criteria (including ambient water quality criteria) are very poor predictors of the status of higher biological populations. Therefore, a much better approach is to exclude the use of these criteria as indicators of injury and to focus on the populations themselves.

In my experience, Trustees regularly use inappropriate indicators and criteria exceedances, such as those discussed above, to subsequently quantify natural resource injuries. Such analyses have resulted, and under the present system will continue to result, in injury estimates that are grossly uncertain and highly overstated. This will, in turn, ultimately produce damage determinations that bear no reasonable relationship to lost services provided by the injured resource or to the actual injury caused by a release. In addition, although I am not an expert in the contingent valuation method for assigning a dollar value to injuries, I am quite aware of the questionable use of this approach. It greatly alarms me that grossly uncertain estimates of injury are fed into an equally uncertain contingent valuation study. For example, the public may be asked in a contingent valuation questionnaire "what would you be willing to pay to know that fish from Lake "A" no longer have liver disease or disrupted enzyme function?" In such cases the public may have no information on whether the recreational fishing in Lake "A" has actually been impaired. They base their response on emotions regarding the putative effect, which sounds very serious to the public, rather than on knowledge of the status of the fishery resource itself.

To identify and quantify injuries and determine damages as efficiently and equitably as possible, I would recommend that any indicators of injury or criteria exceedances that are allowed to be used in the injury determination phase must focus on biological effects that are 1) directly relevant to the release, 2) directly relevant to the injury quantification phase of the NRDA, and 3) directly relevant to reduced services and damage determination. It is particularly important that the indicators are scientifically valid and based on accepted protocols for field collection of samples, laboratory analysis, and data interpretation. Furthermore, the indicators relied on at a specific site must be appropriate given site-specific conditions. As currently written, the Superfund statute (CERCLA) states that liability is for "damages for injury to, destruction of, or loss of natural resources..." (42 USC § 107(a)(4)(C)). This statute should be amended to specifically clarify that, consistent with the injury quantification language in the regulations, the level of biological organization to be protected from injury is the population- community- or ecosystem-level of organization and that it is only the services at these levels of biological organization that are compensable in an NRDA. Following this clarification in the statute, the regulations should be amended to identify appropriate biological measurements and acceptable uses of those measurements in the NRDA process.

DETERMINING CAUSATION AND BASELINE

A second related and very contentious issue under the current NRDA regulations is the determination of causation between the release of hazardous substances and injury and, similarly, the determination of baseline conditions from which injuries are measured.

Determining Causation

As discussed above, Trustees commonly rely on lower-level biological indicators or criteria exceedances as evidence that an injury has occurred. Use of that information is also commonly carried a step further to provide the basis for determining that a source or sources of hazardous substances is or are the *cause* of an identified injury to natural resources. In particular, Trustees will commonly determine that one or more sources are discharging hazardous substances into the area of concern, and will identify the hazardous substances contained in those discharges. Trustees then assume, based on non-specific references, that the identified sources of hazardous substances are the cause of the identified injuries. This is a flawed approach to determining causation because it provides no firm, scientific evidence of a *causal link* between the source and the injury.

A compounding problem in determining causation is that, unlike the ideal case where a single potentially responsible party releases a single hazardous substance, many Superfund sites are contaminated with a wide variety of hazardous substances contributed by numerous potentially responsible parties. However, many of the biological indicators used by Trustees (e.g., any number of various laboratory toxicity tests) to establish the presence of an injury are relatively non-specific. Therefore, the results of these analyses cannot be used to discriminate the substance causing the observed effect or to determine the sources of hazardous substances that are of concern.

Although the regulations explicitly state that the injuries of concern in an NRDA are limited to those that have resulted from the discharge of oil or a hazardous substance (see for example, 43 CFR § 11.61(a)), in my experience Trustees simply do not conduct the critical analyses needed to distinguish between injuries caused by the release of hazardous substances by one or another source, or injuries resulting from other causes. Without conducting this analysis, damages assessed by the Trustees clearly will not bear any reasonable relationship to injuries caused by a particular source or discharge and, thus, will lead to the development of a damage amount that is orders of magnitude higher than that which should legitimately be assessed against a potentially responsible party.

The acceptance criteria for demonstrating that an injury to a biological resource has occurred (43 CFR § 11.62(f)(2)) require evaluations such as whether an identified biological response often results, or is known to result, from exposure to oil or hazardous substances. These criteria are extremely general and as such provide insufficient guidance regarding how to conduct a causation analysis. I recommend that the statute be revised to specifically recognize the importance of conducting scientifically sound analysis of causation. The burden of proof should be placed on the Trustees to demonstrate that a change in natural resource populations is caused by a specific release of a hazardous substance and not by another source or other factors. This kind of assessment will ensure that damages assessed do indeed bear a reasonable relationship to the hazardous substances discharged and that the injuries accrued as a result of that source. The regulations should be revised to explicitly require Trustees to conduct these analyses; my experience indicates that without such a directive, such an analysis will not be conducted by Trustees of their own accord.

Criteria frequently used by scientists to establish causation would be appropriate for use in a causation analysis under the NRDA regulations. For example, the analysis should include a consideration of the statistical probability that the release of a specific hazardous substance by a specific source results in a specific injury. The point is that there must be rigorous scientific evidence of causation between a contaminant source and an injury, not inconclusive and generalized assumptions that a particular source or hazardous substance may result in a particular injury. I would be happy to provide the Subcommittee with a detailed discussion of scientific criteria that should appropriately be included in a causation analysis at a later date, if there is interest.

Determining Baseline

The problems associated with establishing baseline conditions from which to measure injuries are in many ways very similar to those associated with establishing causation. As defined in the regulations, "baseline" means "...the condition or conditions that would have existed at the assessment area had the discharge of oil or release of the hazardous substance under investigation not occurred" (43 CFR § 11.14(e)). In other words, Trustees are required to differentiate between impacts caused by the discharge of a hazardous substance and the impacts that would have resulted from other factors, such as impacts from the filling of wetlands for industrial purposes.

Conditions at the Commencement Bay Superfund site in Washington state provide a good example of factors that may need to be taken into consideration when determining baseline conditions. At this site there is irrefutable evidence that the stocks of salmon migrating through the assessment area to spawn in the tributaries of the Puyallup River are but a fraction of the stocks present there 100 years ago. However, salmon stocks throughout the northwest have been adversely affected by many factors, including over-fishing, loss of critical spawning habitat far upriver as a result of forestry practices and development, and loss of rearing habitat in the estuary as a result of dredging and filling of wetlands. Any assessment of damages for decreases in salmon populations in this case must first determine the difference between the decreases in populations that would have occurred because of all factors excluding the releases of concern and the decreases in population that have occurred because of all factors including the releases of concern. It is only the difference between these population levels that is relevant to an NRDA, *not* the difference between populations present under pristine conditions and populations present today.

As cited above, the NRDA regulations provide an adequate and reasonable definition of "baseline" conditions. However, in my experience Trustees tend to ignore this definition when quantifying natural resource injuries, choosing instead to either not conduct a baseline assessment or to conduct a less complex evaluation that focuses more on a comparison of pristine and current day conditions. At the Commencement Bay site, for example, several studies have been done to identify the types of injuries to salmon and other resources that might result from exposure to hazardous substances, but there has been no attempt to determine what, if any, reductions in the salmon stocks in particular might be attributable to direct or indirect exposure to hazardous substances released within the Superfund site. The statute and the regulations should be amended to require Trustees to conduct appropriate baseline assessments as part of the NRDA process.

SELECTING APPROPRIATE RESTORATION

The last issue that I would like to discuss is the issue of selecting appropriate restoration alternatives once injuries have been quantified. The concerns that I have with this activity are again tied back to the activities conducted during the injury determination phase, as discussed earlier. In particular, I am concerned about how Trustees select appropriate restoration alternatives when injuries are determined based on inappropriate indicators of biological response. The Superfund statute explicitly states that sums recovered as natural resource damages are to be used only to restore, replace, or acquire the equivalent of injured, destroyed, or lost resources (see 42 USC § 107(f)). The regulations in turn state that "[t]he measure of damages is the cost of restoration, rehabilitation, replacement, and/or acquisition of the equivalent of the injured natural resources and the services those resources provide" (43 CFR § 11.80(b)). Neither the statute nor the regulations state that restoration should be at the level of attributes of a resource that may have been found to be injured through the use of biological indicators.

This distinction is an important point for two reasons. First, it again brings into question the appropriateness of using biological indicators that are of no use in later phases of the assessment to determine that an injury has occurred. Second, it serves to highlight the level of restoration that is appropriate in an NRDA situation. In my experience, Trustees often argue that complete removal of historical contamination will be necessary to restore resources. This level of intervention is often not necessary, however, to restore lost resources or resource services at the population level. In addition, the costs associated with this type of invasive activity will very often greatly exceed any benefits to be accrued by the resource.

When selecting appropriate restoration alternatives, for example, recreational fishery, it is my recommendation that Trustees recognize that it is the number of fish available that is of concern to the public, not whether those fish may have sublethal effects at the cellular level that do not interfere with our ability to consume the fish that are caught. In other words, consistent with the regulations, it is the services provided by the recreational fishery that should be restored, and *not* every sensitive measurement that can be made in the laboratory. One final point on this issue should also be made. That is, very commonly, remedial alternatives implemented at a Superfund site will go a long way to recovering injured resources and their services. In many cases, further invasive action would result in more environmental harm than good. In these cases, natural recovery may be the most appropriate alternative to restore any remaining injury following implementation of selected remedial alternatives.

Implementation of these changes in the NRDA provisions of Superfund will result in the following benefits:

- The public would benefit directly by having important resource services restored
- High transaction costs under the present system would be reduced
- Funds would not be wasted on the restoration activities of marginal or uncertain value and could be used elsewhere.

Mr. Chairman, I thank you for this opportunity, and I would be happy to answer any questions that you or other members of the subcommittee may have.

Mr. OXLEY. Mr. Desvousges, from Triangle Economic Research.

STATEMENT OF WILLIAM H. DESVOUSGES

Mr. DESVOUSGES. Good morning, Mr. Chairman, members of the committee. I am Bill Desvousges. I am President of Triangle Economic Research. We are a consulting firm in Research Triangle Park in North Carolina.

I specialize in the valuation of natural resources. I have done studies for the government and for industry for the past 15 years on valuing natural resources, including CV studies. I also wrote the Economics Handbook that accompanied the DOI regulations that came out in 1986.

This morning, I am going to concentrate my remarks on just one topic and that is the use of contingent valuation to measure non-use damages. Already in the opening remarks here this morning, I have heard several members of the committee express some of the same points that I am going to hit in my testimony. I also want to address a couple of the points that came up as I heard other members of the panel speak.

The first point that I want to try to emphasize is that this is the use of contingent valuation. This is a survey methodology. We are dealing with hypothetical answers to questions.

For many situations, the first time people have heard about the situation is when an interviewer walks into that person's home about a half an hour before and begins describing to them some type of resources and injuries. Frequently, they use photographs, just like those photographs that Mr. Hall has shown you this morning, with the principal idea of trying to get people to think about these kinds of resources and these kinds of injuries.

The question that always arises is, what is it that people are really responding to when they are being asked these kinds of questions, particularly when they are hypothetical questions?

My concern with hypothetical questions is that hypothetical questions simply do not lead to the same kinds of answers as questions in which people bear the consequences of their actions and of their decisions. Even in market research where we are dealing with real products, market researchers routinely, routinely adjust downward the answers that they get from people in surveys to reflect the fact that people don't do what they say they are going to do.

Now, add to that in a non-use study, and this is for a resource that people have no intention of using under the definition of non-use; this is simply something for the preservation of the resource, just to know that it exists. For that type of situation, I think that this whole question of hypothetical takes on an even greater notion.

If we look at some of the studies that have been done to try to look at what happens when you ask hypothetical questions and compare them to situations where they have simulated markets for natural resources—these are studies, as I have indicated in my testimony, that were done by two experts who work for trustees in

many cases—they show that the estimates from CV are at least 4 and sometimes 7 times higher than the amounts that people give when real cash is on the line. That is the concern that I have in a damage assessment where a company is being asked to put real cash on the line at the end of the day.

The second point that I want to try to emphasize, too, is that CV estimates have not conformed to basic economic principles. When we did a study comparing people's willingness-to-pay responses for protecting 2,000, 20,000 and 200,000 migratory waterfowl, we got essentially the same answer from people for protecting those levels.

Now, what that implies for a damage assessment then is that a company who has a small spill that injures 2,000 birds would be required to pay the same non-use damages as one that injured 200,000 birds. I don't think that makes for fair compensation or good public policy.

The last point that I would like to make is that we have heard in many situations that ignoring non-use damage is going to understate fair compensation for the public. I think that is simply just not true in the majority of NRDA cases.

There are three reasons why I think that is not true: The first reason is, is that non-use damages, as originally envisioned as a concept, were intended to deal with the permanent loss, permanent loss of unique resources. With the NRDA process, what we are talking about here is restoration of the resource. So we are not talking about permanent losses.

The second point that I want to indicate is, there are substitute resources that are out there. Economic theory and principle suggests the existence of substitute resources will ameliorate any non-use losses that people might experience.

I think underneath those circumstances, this is the basis on which I have recommended that the law be amended to exclude the inclusion of non-use damages in natural resource damage assessment.

Thank you.

[The prepared statement of William H. Desvousges follows:]

PREPARED STATEMENT OF DR. WILLIAM H. DESVOUSGES, PRESIDENT, TRIANGLE ECONOMIC RESEARCH

I am an economist who specializes in valuing the uses of natural resources and in conducting natural resource damage assessments (NRDAs). I am currently the President of Triangle Economic Research, which is a company located in Research Triangle Park, North Carolina, that specializes in the valuation of natural resource uses. I also am a faculty member at Duke University, where I conduct research on valuation issues.

I have worked on the topic of contingent valuation (CV) and valuing natural resource uses for many years. I conducted studies in the early 1980s for the EPA that compared different valuation methods, including CV, for measuring water quality benefits. I have been involved in NRDAs since their inception, when I served as an economic consultant to the U.S. Department of the Interior (DOI). In that capacity, I assisted the agency in developing the 1986 regulations and wrote the NRDA economic handbook on measuring natural resource damages. I have been or am involved in damage assessments on behalf of various companies throughout the U.S. involving both hazardous substance releases and oil spills. I have worked on oil spills ranging from the Arthur Kill spill in New Jersey to the *Exxon Valdez* in Alaska. I have conducted several studies on the reliability of contingent valuation and have published articles on this topic in many economic journals. I also served as Vice-President of the Association of Environmental and Resource Economists and as an Associate Editor of the journal for that same association.

In my testimony today I am going to concentrate my remarks on the use of CV to measure so-called nonuse, or passive use, damages. Nonuse damages are based on the notion that people have some value for natural resources that is completely independent of their use of those resources. For example, people may value knowing that a resource, such as the Grand Canyon, exists even if they never intend to visit it. CV is the survey method that uses answers to hypothetical questions to determine people's nonuse values, or the amount of nonuse damages for injuries to natural resources. In my testimony I will show that these damages cannot be reliably measured because they conform to neither basic economic principles nor simple tests of common sense. As a result, I recommend excluding nonuse damages based on CV from natural resource damage assessment liability.

1. The CV process for measuring nonuse damages has no credibility.

At the outset, I think it essential that the members of this committee, and of Congress in general, have a clear understanding of the role of CV in measuring nonuse damages in a damage assessment. Typically, a survey interviewer goes to peoples' homes and asks if they would be willing to answer a few questions about social and environmental issues. The interviewer leads the respondent through a series of attitudinal and information questions to "warm them up." The interviewer then begins what is often a long, complex process of describing the resources and injuries in question using photos and other visual aids. For many respondents, this may be the first time that they have even heard about these resources and injuries. The interviewer then describes a hypothetical program that will reduce these injuries, or avoid similar injuries over some period of time and describes how the respondent would "pay" for this program.

After usually about 30 minutes of questions and descriptions, the CV interview depends on a yes/no question that is used to determine damages:

> "Is your household willing to pay $X in higher income taxes (or some other method) to have this program to eliminate (or avoid) the injuries that I have described to you?"

In the survey, different people are asked this question with different dollar amounts. Trustees then estimate an average value per household and multiply this average value by the number of households that they consider relevant. The relevant population is usually based on some geopolitical boundary, such as the population of a state or the entire country. This process generates damage claims in the hundreds of million dollars, and occasionally even the billion dollar range.

The CV process lacks credibility for several reasons: the method is based merely on hypothetical answers; the results cannot be externally validated; the answers violate basic economic principles; and the method requires people to process substantial amounts of information on unfamiliar subjects.

The technique itself is simply too experimental to be used in a natural resource damage assessment process, where someone must write a check at the end of the process. I expand on each of these points below.

2. The hypothetical nature of CV generates unreliable damage estimates.

As I stated previously, CV asks respondents hypothetically how much they would be willing to pay for an environmental program. The most important fact about hypothetical questions is that respondents do not have to bear the consequences of any mistakes that they might make in their answers. Common sense suggests that people simply will not put forth the same amount of effort in making a choice when the outcome doesn't affect them. We can all think of situations where the consequences of our actions don't matter—taking a practice exam, for example—and how differently we view these situations relative to those in which our actions will matter.

Market research has shown that even for commercial products, it is always necessary to calibrate or adjust the results of hypothetical studies. Thus, the hypothetical nature of a question affects respondents' answers even when they are familiar with the products they are asked about and have substantial experience in valuing those products. It is not hard to imagine how much worse this problem would be for a "product" that people know very little about, such as the resources valued in a CV study.

3. CV estimates of nonuse values cannot be externally verified or calibrated.

It is important to keep in mind that with nonuse values there is no way of observing or measuring people's "true value." Nonuse values do not involve any observable behavior; they are simply experienced "psychically." Consequently, nonuse values cannot be observed by market purchases or inferred through actions. The lack of an external standard has serious consequences for evaluating the reliability of CV answers. Unlike physics or chemistry experiments, where it is possible to have stand-

ardized measurements or controlled laboratory conditions, CV is a technique that relies entirely on peoples' answers to complex, hypothetical questions. While estimates from a time clock can be validated by Greenwich mean time, there is no comparable objective measure that can be used to adjust CV responses to the correct amount of damages.

Given this important limitation of CV nonuse measurements, some researchers have tried to simulate market situations in order validate CV estimates. However, few of these simulated market experiments have focused on commodities with large nonuse value components. Table 1 below shows the results of two recent attempts to validate CV in a largely nonuse context.

TABLE 1—CV Overstates Actual Cash Values

	CV Value	Actual Cash Value
Road Removal in Grand Canyon	$46	$7
Maintaining Instream flows in MT	$20	$5

These studies were conducted by two proponents of CV, Dr. Richard Bishop of the University of Wisconsin at Madison, and Dr. John Duffield of the University of Montana, respectively. The results of these studies are very clear: the hypothetical answers to CV questions substantially overstate the simulated market amounts where real cash changed hands. In the case of the Bishop study, the results are dramatic: the CV responses are almost seven times greater than the cash payments.

A review of simulated market studies comparing hypothetical and actual WTP for nonuse commodities does not indicate a consistent calibration factor that can be used to correct CV estimates of nonuse value. For example, the two studies above indicate different calibration factors of 7 and 4 respectively. While the proposed NOAA regulations have attempted to address the bias induced by CV by providing for a calibration factor of 2 (requiring Trustees to divide their nonuse damage estimates in half), their calibration factor is really just arbitrary. The results of the two studies discussed above show that NOAA's proposed calibration factor is likely to be inadequate. The inability to externally calibrate CV responses makes the method unreliable for use in NRDAs.

4. CV responses fail to conform to basic economic principles.

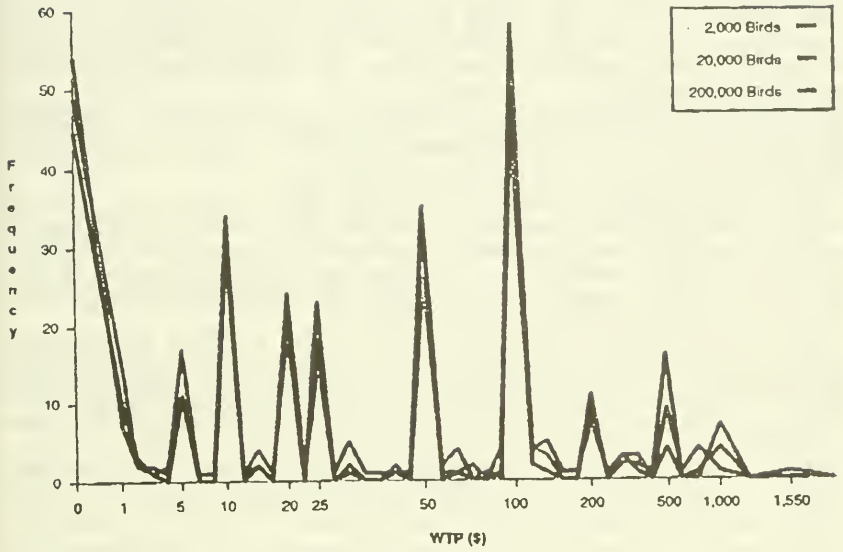
Another logical question to ask in the debate about CV is whether the answers people give are consistent with basic economic principles. One principle that my TER colleagues and I have evaluated is whether peoples' valuation responses increase with increases in the level of injury that is being prevented or restored. Presumably, people should be willing to pay more to protect more of an endangered species.

To test this proposition, we asked three groups of 400 people in Atlanta, GA, about their willingness-to-pay to protect 2,000; 20,000; or 200,000 migratory waterfowl in a flyway in the middle of the United States. We chose the numbers of birds based on the injuries that Trustees had estimated in three recent oil spills including the *Exxon Valdez*. People in each group were asked only about one level of protection to minimize the chances for bias.

Figure 1 shows the results from our test. As you can see, the patterns of responses across the three versions are identical. People were willing to pay the same amount to protect 2,000 as they were 200,000 migratory waterfowl.

Although several possible explanations exist for our results, the most plausible is that people are responding in a CV survey to experience the "warm glow" that comes from donating to a charity or doing something to protect the environment. That is, people are expressing a value for the good feeling of giving to a worthy cause, rather than valuing the particular commodity in question. The presence of "warm glow" responses has severe consequences for a damage assessment, because it means that people are not really valuing the injury that has occurred, but rather some broad environmental cause. Therefore, the results of such studies are unreliable.

FIGURE 1—WTP Frequency Distribution: Migratory Waterfoul



5. CV imposes an impossible burden on respondents.

In CV surveys for nonuse values, respondents are asked to process a tremendous amount of information with which they are likely to be unfamiliar. A couple of examples from recent cases will help to illustrate this point. In the Montrose case involving contaminants in Los Angeles Harbor, respondents were told about two relatively obscure fish species, reproduction problems involving eagles and falcons, and a recovery program that was going to cover the contaminated sediments in the harbor with clean dirt. In the *Exxon Valdez* survey, respondents were told about effects on a wide variety of different species as well as a ship escort program to help prevent future spills.

My concerns about this type of information in damage assessments are three-fold. First, it is well known in survey research that the wording and context of a question can have a significant effect on peoples answers. This is especially true of CV surveys. I am concerned that in an effort to simplify the information in a CV survey, researchers may omit or obscure key facts so that respondents end up valuing the wrong commodity.

Second, damage assessments usually involve small changes in a species—for example, increasing the number of fish or birds in an area by 1 percent or even 5 percent. These types of changes are even hard for people to comprehend. As noted earlier, people are giving answers for a much broader problem than they are being asked to value.

Finally, people are not given the opportunity to make informed choices. The decision must be made then and there, based only on the information provided by the interviewer. My colleagues in the Business School in Duke have shown that the types of situations respondents face in CV surveys—hypothetical questions, unfamiliar goods, and information overloads—lead to very poor decisions or choices. Based on my experiences over the past fifteen years, I am skeptical that people, even if they were given unlimited time and information, could develop reliable answers to the questions they are being asked in CV surveys that attempt to measure nonuse damages.

6. CV is an experimental technique.

CV proponents often cite an extensive literature to show that the method is widely used. Such citations are misleading for two reasons. First, most CV studies have focused on use values, not nonuse values. As I have shown today, the most severe problems with the method stem from using it to measure nonuse values. Second, the literature contains many duplicate studies or papers that are merely theoretical

in nature. These studies say nothing about the empirical reliability of using CV to measure nonuse values.

The debate over CV is intense within both the regulatory and academic communities. However, even the most ardent of CV proponents will concede that there is no track record demonstrating the reliability of CV for measuring nonuse values. In fact, many of the investigations of reliability have led to just the opposite conclusion: the method is not reliable.

Finally, it should be noted that concerns about the reliability of CV results have been around a long time. In the original DOI regulations, the use of CV to measure nonuse values was severely circumscribed to only a few limited situations, if at all.

7. Omitting Nonuse Values Will Not Understate Damages

One common argument for including CV estimates of nonuse damages is that without it damages will be severely underestimated. In my opinion, this argument overlooks three significant facts. First, the restoration of resource services required by NRDA regulations, means that only foregone nonuse values during the interim period until recovery is complete are at issue. When restoration is complete, all nonuse values, if they were lost, would be restored.

Second, the concept of nonuse values was originally envisioned for permanent losses of unique resources. This situation has not arisen in most damage assessments. Typically, many substitute resources exist for the injured resources, which suggests that any nonuse damages should be small. Moreover, the resources are recovering on their own and through the restoration activities. For these situations the potential nonuse losses again are quite small.

Finally, I am concerned that the transactions costs of trying to measure nonuse damages in many NRDAs are often greater than the damages themselves. I think society could be in a worse situation from an economic efficiency point of view by including nonuse damages than if they were excluded.

In summary, it is my opinion that nonuse damages cannot be reliably measured using CV. The problems with CV are endemic with the hypothetical nature of the questions, which leads to overstated damages. These problems are compounded by the difficulty of the task that is imposed on the people answering the questions, and the fact that it is impossible to externally calibrate the results. Finally, the existing research also shows that CV responses violate basic economic principles. For these reasons, I recommend excluding nonuse damages using CV from CERCLA and OPA liability.

Mr. OXLEY. Thank you all for your testimony.

The Chair will recognize himself for 5 minutes. Mr. de Saillan, NAAG opposes eliminating liability for injuries from pre-1980 disposal, and yet the statute says, There is no liability where the release and the damages resulting from the release occurred wholly before the enactment of CERCLA. Isn't it already the intent in the statute not to impose liability for pre-1980 disposal, and can you please explain the statutory language to us?

Mr. DE SAILLAN. Sure, Mr. Chairman.

The language does say that liability doesn't apply where the injury and the damages occur wholly before 1980, and in those circumstances, there is no liability, and the courts have given effect to this plain language if you look at the *New Bedford Harbor* case, cited in the materials. However, even where the disposal took place prior to 1980 but where the injuries or the damages continue after 1980, there is continuing liability as a result. That is what the language says and that is the way it has been interpreted.

Mr. OXLEY. Does this apply to old mining sites, for example, going back to 1910 mining? Does the language seek to go back that far?

Mr. DE SAILLAN. That would apply to old mining sites if the injuries continue after 1980, as is the case at a number of sites, such as the Blackbird Mine, such as the Bunker Hill Mine in Coeur d' Alene, such as the mines in Montana that resulted in the damages at Clark Fork.

Mr. OXLEY. So your testimony is that this has a long tail. This goes back, conceivably back even before the turn of the century.

Mr. DE SAILLAN. If the damages are continuing to the present day, yes, that is correct, Mr. Chairman.

Mr. OXLEY. Mr. McKnight, what about that?

Mr. MCKNIGHT. Well, Mr. Chairman, I don't understand Mr. de Saillan's interpretation of the statute, Mr. Chairman, because his interpretation makes absolutely no sense. Congress would exclude nothing to proscribe injuries that continued to exist after 1980. If conduct occurred prior to 1980, that would spawn injury that continued to exist after 1980, then under Mr. de Saillan's interpretation of the statute, there would be natural resource damage injuries and the opportunity for recovery.

The problem is that I can't think of a situation where conduct occurred prior to 1980, where there was no continuing injury beyond 1980, where there are any natural resource damages. If the injury doesn't continue to exist past the 1980 date, then there are no damages and no recovery.

So what did Congress intend to proscribe if they didn't intend to proscribe the conduct that occurred prior to 1980? It is our position that you have to focus on the conduct. And what Congress clearly intended, and what is clear in the legislative history of the provision, is that if conduct occurred prior to 1980 that resulted in continuing injury after 1980, that is not compensable under natural resource damages.

Mr. OXLEY. And you disagree with that, Mr. de Saillan?

Mr. DE SAILLAN. Yes, Mr. Chairman.

Mr. OXLEY. It looked to me like the language, the legislative history of——

Mr. DE SAILLAN. The legislative history is not of much value in deciding this issue. But I think Mr. McKnight is wrong in that where part of the damages occur prior to 1980 and part of the damages occur after 1980, there is only liability for the post-1980 damages, and that is what the court held in the *New Bedford Harbor* Case.

Mr. OXLEY. What is happening after 1980? Let me ask of you, Mr. de Saillan, then Mr. McKnight. It occurs to me the only thing that would happen after 1980 in a situation where you had tailings, for example, would be rain that would then allegedly leach into the water supply, the soil; is that correct?

Mr. DE SAILLAN. That is correct. There is acid mine drainage that occurs as the result of the digging up of the mining waste and exposing it to the weather and to the atmosphere.

Mr. OXLEY. So every time it rains, you have a separate violation essentially?

Mr. DE SAILLAN. Violation isn't really the appropriate word.

Mr. OXLEY. In your interpretation of the statute, you have coverage if it rains after 1980?

Mr. DE SAILLAN. If there is release of hazardous substances which cause injuries to natural resources and resulting damages, yes, that would be correct.

Mr. OXLEY. The placement of the waste, though, was before 1980 obviously, but the release is caused by the rain, which in your in-

terpretation then would provide coverage under the existing statute?

Mr. DE SAILLAN. Well, the release is caused by the fact that the hazardous substances are exposed to the environment and can be released by the rain or the weathering of the waste rock, yes.

Mr. OXLEY. Mr. McKnight, I assume you have a different interpretation of that.

Mr. MCKNIGHT. Mr. Chairman, again, Mr. de Saillan's interpretation totally eviscerates any prohibition, any limitation on natural resource damages. And I think the legislative history, although it is scant, is fairly clear on this point. The purpose of the program is not to undo all the impacts of past industrial activity. That is not what Congress intended to address. It was clear that they were looking at prospective conduct, and that is our position.

Mr. OXLEY. The Chair's time is expired.

Recognize now the ranking member, the gentleman from Louisiana, Mr. Tauzin.

Mr. TAUZIN. I thank the chairman.

Mr. McKnight, in the list of things that you consider as overreaching implementations of the NRD program, you list something that I have wanted to discuss and maybe get some opinions from a number of you on the panel. You list the notion that natural resource damages are used to lever the kinds of cleanup actions that are going to be eventually the remedy, selection process in effect, the cleanup action that is going to be taken at a given site. So that while the parties may agree upon a remedial remedy that is going to take care of this site, that all of a sudden, the NRD damages come in as an additional lever that ups the cost of remediation considerably.

Anyone want to comment on that? Is that a problem? I would like to hear point, counterpoint on it.

Mr. HALL. Congressman, I guess part of the problem with this debate is that a lot of the statements that are made are speculative about what is going to happen in the future. And the history of the program has indicated that this has not happened, that there have only been natural resource claims in a very small percentage of the cases, about 5 percent. It has amounted to about 1 percent of the total remediation cost.

A number of these cases are just now maturing in court. That is not the full extent of it, but we think that the total amount could be 5 to 10 percent of the cases. Mr. McKnight talked about the potential liability for the Energy Department being $1 trillion under natural resource claims. You know, to date, we have not had any claims at all, and so I think that when we get into this debate, we have to look at what the actual facts are.

Mr. TAUZIN. It is minimal problem.

Anybody want to say it is a bigger problem?

Mr. MCKNIGHT. I will certainly jump in here.

I think, first of all, it is totally inappropriate to evaluate the natural resource damages program by looking back, and the reason is that NRD follows the cleanup program, and we all know how terribly slow the cleanup program has been. NRD necessarily follows the cleanup program. And we are just beginning to see the true impact of the NRD program. Last year, the assistant——

Mr. TAUZIN. You make the point that during the cleanup, during the decision on remedy selection, that NRD influences a higher cost of remedial action. That is the point I ask. Is that a real problem or is that an imagined problem?

Mr. MCKNIGHT. In a lot of cases, that is true. To some extent, PRP's who are concerned about the enormous potential unbounded NRD liability claims are wont to include some restoration alternatives beyond the remedial alternatives.

Mr. TAUZIN. You say it is bigger. You make another point on alternative, more cost-effective restoration of lost resources. You use the chinook salmon, and I forget the case you mentioned, but Mr. Hall, you brag about it in your testimony, that the decision was made to restore 200 salmon. If the cost was $400,000 per salmon, Mr. McKnight's point is that you could have restored those 200 salmon, in fact, a great deal many more for the same amount of money in another location. What is your argument against it?

Mr. HALL. Congressman, if the facts were as stated, I think that would raise a lot of questions. That is not what had occurred. We had a $70 million settlement. Out of that, most of it was for remediation and for cleanup of the site. About $15 million was spent on restoring natural resources, and then not all of that dealt with salmon. We are talking about habitat restoration and improving the natural resources of that watershed.

Mr. TAUZIN. He makes the point that the current law ought to make room for you to restore resources in a comparable setting where cost-effective practicality would dictate that. Do you disagree with that?

Mr. HALL. No. Congressman, the current law allows that flexibility at the current time. So I think we are continuously looking for the most cost-effective way to——

Mr. TAUZIN. So you have no problem with that concept?

Mr. HALL. No.

Mr. TAUZIN. Mr. McKnight.

Mr. MCKNIGHT. One of the problems is it is not a requirement, so in a lot of instances, trustees do not consider alternative resources. The *Montana* case is a great example of that. The State of Montana in the *Clark Fork River* case did not consider at all the acquisition of equivalent resources. Instead, they looked at a $635 million restoration program, without even considering the possibility of restoring those injured resources in some other fashion.

Mr. TAUZIN. My time is up.

I wanted to compliment you on the no-use evaluation. I thought that was an excellent piece of work.

You wanted to say something?

Mr. DESVOUSGES. I want to add one thing in terms of the issue that we are talking about here and that is the cost-effectiveness of restoration. We look back at the original DOI regulations. It was required that restoration would be the most cost-effective alternative.

Now what the regulations say, cost-effectiveness is only 1 of 10 criteria the trustees could consider. I think that is a significant change in the wrong direction and leads to just the kind of situation that we have heard about here.

Mr. OXLEY. The gentleman's time has expired.

The gentleman from Kentucky, Mr. Whitfield.

Mr. WHITFIELD. Thank you, Mr. Chairman.

In your testimony, the gentleman from Alcan.

Mr. MCKNIGHT. Alcoa.

Mr. WHITFIELD. Alcoa, not Alcan. Sorry. You had indicated that prior to the *Exxon Valdez* case, that these NRD cases were really few and far between. Was the *Exxon* case the first one that used the NRD provisions to a great extent?

Mr. MCKNIGHT. Well, the *Exxon* case was actually a Clean Water Act case and not a CERCLA case, so that is the first issue, but they use the same implementing regulations in the *Exxon* case. It was the first case of any real magnitude in this area.

And there is another point on that, and it used to be that industry could negotiate with the Justice Department regarding NRD settlements on the front end and that the Justice Department used to be willing to negotiate NRD settlements, kind of as a throwaway, and recently in the last couple of years, the Justice Department has changed their policy with respect to negotiating covenants not to sue in NRD cases and now they are requiring full natural resource damage assessments before they will even talk to us about natural resource damage covenants not to sue. So the landscape really has changed dramatically.

Mr. WHITFIELD. In the *Exxon* case, were there lost-use damages and non-use damages in that case?

Mr. MCKNIGHT. There were, Mr. Congressman. There are people on this panel I think who are probably more familiar with the specific facts of *Exxon,* who actually were involved in the case.

Mr. WHITFIELD. Okay.

Mr. MCKNIGHT. But my understanding is there was a very, very significant component of the damages that was a non-use component. There was a CV study done. It was a study that looked at about 300 people in the Northern California and Alaskan area, and they did a public opinion polling survey, and I think the CV estimates from that study were between $3 billion and $15 billion. And my understanding is that that was the impetus, the lever, if you will, that really led to the enormous settlement on the part of *Exxon,* as well as the public issue.

Mr. WHITFIELD. Who on the panel was involved in it?

Mr. HALL. Congressman, why don't I ask Craig O'Connor, he is one of the attorneys actually involved in the case. He is not on the panel, but if I could ask that he just explain briefly, because he was involved in the case.

Mr. OXLEY. Could you take the witness chair?

Identify yourself again please for the——

Mr. O'CONNOR. My name is Craig O'Connor. I am Special Counsel for Natural Resources for NOAA.

Mr. Congressman, the natural resource damage settlement in the *Exxon Valdez* case was $900 million. The economic determinations that we made in that case indicated that the actual loss, commercial and recreational fishing revenue that would have been compensable to the trustees was, roughly, in the neighborhood of $300 to $350 million. The contingent valuation study that has been referred to was not even conducted or completed until after the settlement had been effected.

The foundation for the settlement in the *Exxon Valdez* was basically an evaluation by the trustees, both by the Federal Government and by the States, as to what moneys would be necessary to restore, replace or acquire the equivalent of the injured resources. That served as the foundation for the negotiation of the settlement.

The conclusion was that after the trustees had been compensated for their expenses, or additional remediation activities that might be required to remove further oil from the environment over the ensuing years, the moneys that remained would be adequate to restore the natural resources, and that was the focus of the settlement. That was how it was defined.

Whether you want to suggest a component of that was for lost passive-use values, it is entirely speculative. That was not the focus of the settlement negotiation.

Mr. WHITFIELD. Was compensation or expenses given back to the trustees out of that fund?

Mr. O'CONNOR. Of that money, somewhat in excess of, I think, $110 to $120 million was returned to the trustees, both the State and Federal Government, for their costs associated with the conduct of the natural resource damage assessment.

Mr. WHITFIELD. So that would have included legal fees and other expenses?

Mr. O'CONNOR. The legal fees were not reimbursed to the U.S. Government. The legal fees were reimbursed to the State of Alaska, however.

Mr. WHITFIELD. Okay.

Mr. MCKNIGHT. Mr. Congressman, with all due respect——

Mr. OXLEY. The gentleman may respond. Then the gentleman's time is expired.

Mr. MCKNIGHT. With all due respect to Mr. O'Connor's position, my understanding is that the consent decree did include use and non-use damages, that in fact the non-use study was done during negotiation with respect to settlement, and the court has now prohibited recovery to commercial and recreational fishermen regarding their losses, and the principal basis for that is because the recovery has already accrued to the trustees. So that is my understanding.

Mr. OXLEY. The gentleman's time has expired.

The gentleman from Michigan, Mr. Stupak.

Mr. STUPAK. Well, thank you, Mr. Chairman.

In watching the discussion going on here today, it is pretty obvious where we have our breakdown. I think the focus should not be just to the conduct which led to the pollution or loss to our natural resources, but also the injury and the continuation of the injury and where do you draw that line.

I guess those are the questions I asked in my opening and I guess I am no further closer to that resolution, probably further away from it. But let me ask this question.

Mr. Hall, maybe you can answer this one probably best. If Superfund may not be used to pay for restoring damages to natural resources, and if the trustees must rely on recoveries from responsible parties to pay for this work, then are our Federal and State trustees accomplishing the goals of that program, in your opinion?

Mr. HALL. Congressman, I think it is early in the program. I think we are accomplishing it in a number of locations. I think if you look at the settlement at Blackbird Mine, I think that is a good example of where we are.

But that restoration project is just beginning. I think we are early in the process.

Mr. STUPAK. Well, let's go to Blackbird Mine, since that came up, and photograph No. C that you had there, where you had like the real blue river, there was a lot of like dead vegetation around the river bank. Was that dead vegetation or was it taken during the winter when there was nothing that was growing, or what was going on there? Is that a natural riverbed or is that just no vegetation can grow in there, or what?

Mr. O'CONNOR. It is a combination of both.

What has happened in this particular system, a lot of the of the materials that have been contained upstream, the mine tailings and so on, when there are large runoff events and large storms and so on, those materials are forced down the river or down the stream, and you can see the rubble on either side. And this is causing the condition that we are seeing here, as well as the vegetation being——

Mr. STUPAK. All right. The conduct is the overflow from the holding ponds, right?

Mr. O'CONNOR. That is part of it. There is a continuing flowing water leaching through the system and into the stream system.

Mr. STUPAK. So if you are going to resolve this, you have to stop the overflowing from the holding pond and the leaching, correct?

Mr. O'CONNOR. That is correct.

Mr. STUPAK. Then if that is accomplished, the leaching stops and there is no more overflow, then the injury or the assessment of the continuing injury would be capped at that point in time, correct?

Mr. O'CONNOR. That is correct. What we have done——

Mr. STUPAK. But if it is not successfully accomplished where there is a heavy rain 6 months later and you have an overspill, then that would be a continuing damage underneath the current natural resource damage estimate, right?

Mr. O'CONNOR. That would be a future injury, that is correct. But whether the water is going to be treated and the water that is actually going to be returned into the system——

The restoration plan calls for the water to be treated as it comes out of this system and is introduced back into the streams. The water quality will be attained such that it will support all life stages of salmon. It is so that they can live there, they can spawn, they can reproduce, the eggs survive and return to the Snake River and the Columbia.

The streams will be cleaned out, the materials will be contained so that that water, as it flushes through, can be contained and treated so that it will be a productive environment.

Mr. STUPAK. That is all fine, but if you have a violation of the system then and in the mine, acid water returns, you can go right back to your original state, correct?

Mr. O'CONNOR. We can go back to that state and that is provided for in the consent decree. If that problem occurs, then we go back.

We clean the situation up and we address how we can contain future spills. That is part of the plan.

Mr. STUPAK. And then any loss of wildlife or even vegetation would have to be recomputed in the computation?

Mr. O'CONNOR. No, sir, that would not count. We have resolved that. We would do it through the engineering and mechanical implementation of the settlement process. It would not reopen a damage claim.

Mr. STUPAK. Okay. And that is all in the settlement, because you have agreed that this should do it and this should capture the sediments and the acid and everything else, and if there is a violation of that for some unforeseen reason, you do not go back through and reassess the wildlife and——

Mr. O'CONNOR. No, sir, there will not be an additional natural resource damage claim. There are provisions in the consent decree to deal with those problems.

Mr. STUPAK. Is this the first time that this has happened or are most of the consent decrees you are doing now, that is the way you are structuring them?

Mr. O'CONNOR. No, sir. All of the consent decrees that address natural resource damages, where we have settled those cases, capture all of the liability associated with those. If there is other conduct in a different area by a different entity, that is an entirely different matter, but that covers the natural resource liability.

And in the *Blackbird Mine* case, just to address this situation, the trustees are not going back and trying to restore pristine conditions, we are restoring the productivity of this stream system to 1981 conditions.

We recognize that there are downstream effects, hydropower and so on. What is the relative productivity of this stream system today and how do we address this productivity as it is influenced by the mine discharges? That we will look at.

Mr. STUPAK. The gentleman's time is expired.

Mr. STUPAK. Mr. Chairman, could we possibly get that consent settlement? I would like to see where that is written on the Blackbird Mine, since that has sort of been an issue here today. I would like to see it. There may be some language in there that may be helpful to us.

Mr. OXLEY. If that could be made available for the record. Is that correct?

Mr. O'CONNOR. Yes, sir.

Mr. OXLEY. We would be glad to make that available for the record.

[The Consent Decree referred to is retained in the Commerce Committee files.]

Mr. STUPAK. Thank you.

Mr. OXLEY. The gentleman, Mr. Crapo.

Mr. CRAPO. Thank you, Mr. Chairman.

I would like to address a couple of questions to Mr. Hall.

Mr. Hall, is it true that the damages or money collected for NRD restoration work is placed in a separate account from other Agency trustee dollars?

Mr. HALL. Yes, that is correct.

Mr. CRAPO. And can you tell me what kind of an accounting system is used for those moneys? In other words, how are they accounted for and how are they used?

Mr. HALL. I am not familiar with the details of how the accounting system is used. Maybe we ought to have somebody who is familiar with the day-to-day operation or administration of the program.

Mr. CRAPO. What I am going to get at, is there ever any money that is left over in those accounts that is not used for restoration?

Mr. HALL. Congressman Crapo, under the statute, all the funds must be used for restoration activities. So it is not possible under the statute to use these funds for some purpose other than what is required by the statute.

Mr. MCHUGH. Congressman, if I might, I might add that we are required to do restoration, replacement or acquisition of the equivalent. That is why these funds are separated into separate accounts, so that we can keep track of them.

Mr. CRAPO. You are talking about acquisition of equipment?

Mr. MCHUGH. Acquisition of equivalent resources.

Mr. CRAPO. So if I understand the testimony correct, then, the money that is collected for NRD restoration is used solely for NRD restoration.

Mr. HALL. Yes.

Mr. CRAPO. I would like to go also to Mr. Hall, and perhaps you may want to have the gentleman who was assisting you with regard to the Blackbird Mine assist in answering this question, but in your testimony, you indicate that all of the loss of salmon in this creek is attributed to the Blackbird Mine; is that correct?

Mr. HALL. That was not in my oral statement. If that is included in the written statement, it is not intended to be. It is a significant factor, but there are a number of hydroelectric facilities, as have been indicated, in the river system. There are a number of reasons for a decline in salmon. In this particular tributary, the mine was a very significant factor in the decline of salmon.

Mr. CRAPO. And through whatever analysis you have used, you have concluded that the amount that should be utilized for the damage evaluations is 200 fish?

Mr. HALL. I might want to refer to Mr. O'Connor to talk about how the number was arrived at. I think this is what we think is biologically appropriate given the condition of the river at this time, and as an achievable goal, this is a——

Mr. CRAPO. Could Mr. O'Connor take the microphone for a moment? Quickly, I would like to know how we got to the 200 fish figure.

Mr. O'CONNOR. The way we got to 200 fish is we went through an evaluation based on historical data, particularly that had been gathered by the State of Idaho, to make a determination as to what the historical abundance of adult spawning salmon would be in the Blackbird Creek, Panther Creek area. This was all data that had been collected by the State of Idaho, as well as the National Marine Fishery Service and some other entities.

Mr. CRAPO. At 1981 or——

Mr. O'CONNOR. That was back in the early 1930's, 1940's and 1950's. This is when the stream system was particularly productive. That was what we considered to be its maximum capacity.

Mr. CRAPO. Two hundred fish?

Mr. O'CONNOR. Two thousand fish. From that point, we made a determination as to what the downstream effects might be on that relative abundance, and the determination was made that that relative abundance couldn't be much more than about 10 percent of its historical levels, and that 10 percent was the 200 fish.

Now, we are not talking about bringing back 200 fish, walking away from the situation. What we are talking about is bringing back on an annual basis 200 adult spawning salmon that will return to the stream system, lay their eggs. The downstream effects will be much larger than that in terms of——

Mr. CRAPO. So what you are telling me is the effect of the dams has been taken into account in the consideration or the determination of damages?

Mr. O'CONNOR. That is correct, sir.

Mr. CRAPO. All right.

I would like to talk to Mr. Desvousges for just a moment.

If I understand your information regarding the CV correctly, when a contingent valuation is done, people are basically asked to say if they will give a certain amount of money to clean up something; is that the way it is approached?

Mr. DESVOUSGES. It is frequently cast as a cleanup type question, yes.

Mr. CRAPO. And when the surveyors come up with a figure, that is the average of the amounts offered by the households, which is multiplied by the number of households in a State or town?

Mr. DESVOUSGES. State, town or in the United States. The case of the State of Alaska, the Exxon Valdez survey that was conducted, they multiplied it times 92 million households in the United States.

Mr. CRAPO. That was going to be my next question. Is it safe to say that by doing CV's in this fashion, you can get astronomical high uses of values just by the number you use or number of people or households you choose to pick for multiplying?

Mr. DESVOUSGES. The number of households is the relevant market, and how that is determined is a very significant factor in terms of what the total amount of damages are. In my experience, that particular determination is frequently an arbitrary type of decision. It is based on some kind of geopolitical boundary or something else. It really doesn't get at the actual natural resource injuries that are at question in the case.

Mr. OXLEY. The gentleman's time is expired.

The gentlelady from Oregon, Ms. Furse.

Ms. FURSE. Thank you.

Mr. McKnight, we all represent different interests, obviously. We all have our own interests, but Members of the U.S. House of Representatives have a very special responsibility, a trust responsibility, that we take very seriously.

I think we usually think of natural resources as having economic interests or recreational interests and value, or aesthetic value. We seldom hear about the religious values. So I want to tell you about

the most important religious ceremony for the over 40 treaty tribes in the Northwest. The First Salmon Ceremony is the most important religious ceremony in that area. When that first salmon comes back, it is taken, and it is consumed by tribal members. If the salmon doesn't come back or if it is contaminated and cannot be consumed by tribal members, the ceremony is lost.

Now, I think there is nothing hypothetical about this. If you were to ask any tribal member of a recognized tribe in my area, they would tell you exactly how valuable that was to them. The cost they would put on it is priceless. There is no price worthy of that.

You have suggested a $50 million cap. Can you put a price, Mr. McKnight, on Christmas, on Hanukkah, on Ramadan? You have suggested this $50 million cap, and yet we as Representatives, and Mr. Hall as a Secretary, has a trust responsibility which is guaranteed under the U.S. Constitution, Article VI, Section 2. So there is a very real cost. Can you put a price on Christmas, Mr. McKnight?

Mr. MCKNIGHT. I don't think so.

Ms. FURSE. I don't think so either. I don't think any of us can. So we have to think about these other costs. For each and every one of us, there are those costs.

Now, in your proposal, you have two proposals, Mr. McKnight. One is to eliminate retroactive liability and one is to expand the $50 million cap. Can you tell me how much the cost for those injured natural resources would be if they were shifted to the taxpayer in just 8 following sites, if you could give me just an estimate? Clark Fork Montana; Lake Coeur d'Alene; Lavaca Bay, Texas; Hudson River watershed; the Housatonic Watershed in Massachusetts; Saint Lawrence River, the Saginaw Bay, and Los Angeles Harbor. What would be the cost to the taxpayer if the polluter was not picking up the cost?

Mr. MCKNIGHT. Ms. Congresswoman, we do not propose any shift of NRD responsibility to the taxpayer. That is certainly not the NRD Coalition's position on this.

We believe basically that the policy, the basic policy of the Natural Resource Damage program should be to restore injured natural resources. The problem is that the way in which the program has been misconstrued by trustees generally over the last 15 years has resulted in a total evisceration of the basic purpose of the NRD program.

We are interested in reforms to the program that will restore the basic purpose of the program, which is to restore natural resources, and the touting up of enormous potential damage claims is not going to help the program. The policy that we want to put forth and the policy that I believe Congress ought to be interested in on the Natural Resource Damage program is getting after restoration of resources. That is what we are talking about.

Ms. FURSE. All right, Mr. McKnight, may I just go back. I am not picking on you. You just have interesting testimony.

You said, well, why can't we just restore it somewhere else? We were talking about the Blackbird Mine. I want to remind you, the treaty tribe has the right to that resource in their ancestral grounds. Now, treaty tribes are sovereign nations. We have to take into account their rights. How can you restore a river in Idaho in

Nez Perce fishing grounds with a river in somebody else's fishing grounds?

Mr. MCKNIGHT. The statute provides for restore, replace or acquire the equivalent of the resource. Our point is that we ought to be cost effective in terms of the restoration that we choose. I am not willing to concede at this point in time that we cannot replace or acquire the equivalent of that resource in some other part of the tribal lands. I am not familiar specifically with the details of their ownership rights, so I can't answer any beyond that.

Mr. OXLEY. The gentlelady's time is expired.

The gentleman from California, Mr. Bilbray.

Mr. BILBRAY. Thank you, Mr. Chairman.

Mr. Hall, I would like to ask you a question, seeing that I am a real believer in what goes around comes around. Those of us in the public sector are often quick to point fingers at the private sector and hold them to one standard, and eventually those of us in the public sector have to sort of live by the same rules.

A recent GAO report notes that there is a potential for significant NRD liability for Federal facilities. I am quite interested in this. I have over 12 Federal reservations in my district alone. Has the administration done an assessment of the budget impacts of NRD liability for Federal facilities for the next 10 years?

Mr. HALL. Congressman Bilbray, there is significant potential liability for the cleanup, remediation and the NRD claims. The NRD part of that, we think, will be relatively small compared to the total liability.

It is probably in the order of 5 to 10 percent overall of the total remediation cost. So in terms of the number of cases that would involve the natural resource damage claim. So I think that in terms of the total dollar amount, I think it would be relatively small compared to remediation.

Mr. BILBRAY. So you have assessed it and figured that this was our exposure?

Mr. HALL. In the case of the Department of Energy, we believe that most of the remediation work will take care of the natural resource claims so that there will not be additional claims that will be required in addition to the cleanup work.

Mr. BILBRAY. Has the Clinton budget considered this financial impact and included it in the budget?

Mr. HALL. Congressman, I would have to provide that answer. We certainly have provided in our budget significant appropriations, and under our old Agency, we have provided for Superfund cases where we have responsibility. Since we are not a large potentially responsible party in terms of the details of what has been included in the budget, I would have to defer that and provide that for the record.

[The following letter was received for the record:]

DEPARTMENT OF ENERGY,
Washington, DC, May 23, 1995.

HON. ROBERT C. SMITH
Chairman, Superfund, Waste Control, and Risk Assessment Subcommittee
Committee on Environmental and Public Works
U.S. Senate
Washington, DC

DEAR MR. CHAIRMAN: At the hearing on Federal facilities and Superfund on Tuesday, May 9, 1995, you asked me to provide information regarding natural resource damages at Department of Energy (DOE) facilities. DOE is involved in several efforts that will support the definition and resolution of issues related to natural resource damages.

First, the Administration has convened a process to facilitate dialogue with the Congress and with affected parties over Superfund's natural resources damages provisions. DOE representatives will be participating in that dialogue. The Administration process, and the Administration's position on natural resource damages in general, are outlined in the letter to you dated May 2, 1995, signed by the Assistant Secretary for Oceans and Atmosphere at the Department of Commerce and the Assistant Secretary for Policy, Management, and Budget, at the Department of the Interior. Throughout, the Administration has strongly supported the natural resource damages programs administered by Federal, State, and Tribal trustees under Superfund. Indeed, DOE itself serves as a trustee for natural resources at its facilities.

Second, DOE is working to implement new procedures for coordinating with trustees during all phases of our environmental restoration projects. Under these procedures, we are integrating natural resource risk studies into environmental restoration investigations and will fully consider as a part of remedy selection the effects and mitigative steps needed to protect natural resources. Through this process, we hope to limit or eliminate the potential for significant natural resource damages liability at our facilities—while also recognizing the legitimacy and importance of trustees' authority and responsibilities.

Finally, it should be noted that, to date, only one natural resource damages claim has been filed against DOE, and it has not been pursued. This is at least in part the result of a 1986 amendment to the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), which provides that natural resource damage claims cannot be filed before selection of the remedial action if the site is being diligently investigated as required by CERCLA.

Thank you for the opportunity to provide this information. I look forward to working with the Committee to review options for effective Superfund reform. If you have further questions, please contact me, or have a member of your staff contact Ms. Anita Gonzales, Office of Congressional and Intergovernmental Affairs, at (202) 586-1750.

Sincerely,

THOMAS P. GRUMBLY, *Assistant Secretary for Environmental Management.*

cc: Hon. Frank R. Lautenberg, Ranking Minority Member

Mr. BILBRAY. Okay.

I would just say that you mentioned the Department of Energy. I just remind you, a lot of people didn't realize what kind of liability we had on our military reservations, and with everything that we have opened up, a whole can of worms as we try to decommission facilities, we realize that there is a huge liability that probably dwarfs what is in the private sector, many times over. And some of the worst sites that we have are those that have been owned by the Federal Government, operated by the Federal Government.

And my concern is our punitive attitude about telling a private company: I know 30 years ago you weren't here and didn't do this, but we are going to hold you accountable. All at once it is coming back on us saying, Federal Government, we know you didn't know during World War I that this was an inappropriate way of dumping your material, but now we all have to live by those rules.

Mr. HALL. Congressman, both the Department of Defense and the Department of Energy have very large line items that deal with

this issue. It is hundreds of millions of dollars. I just don't know the details of what they have budgeted.

Mr. BILBRAY. One of the concerns I have is those resources are going to be taken off our men and women on the line and be used for this process, without really making sure it is cost effective.

Mr. O'Connor, you have represented the—sort of the process here, and as somebody who has worked with environmental agencies and seen how the good things are working out—I have seen that regulatory agencies can cooperate with the private sector.

I have received information that during a staff briefing on NRD, you at the end of the meeting commented to the staff, in relationship to the industry perspective, and to be real blunt about it, the comment that I received that you stated was that the other side—first of all, an outright adversarial position with the private sector—that the other side's opinion, quote, unquote, "was bullshit."

Now, if this information is right, how do we justify fostering this kind of attitude at the same time that we are trying to work with the private sector, who are not our adversaries? They are our fellow citizens. Do you think this kind of comment perpetuates a good working relationship with the private sector?

Mr. HALL. Congressman, I will let Mr. O'Connor answer that, but I certainly would defer that answer. The White House earlier this year on its own initiative has requested help from the industry in dealing with some of these difficult issues. They are not easy issues. There are not clear answers to some of these problems. So I think one of the things that is important to point out is we have initiated a process of dialogue with industry.

I have traveled around the country meeting with various representatives of the petroleum industry and other industry representatives, so that we can try to work through the issues of natural resource damages together, because it is going to take a combined effort.

Mr. BILBRAY. Mr. Hall, my concern, as somebody who administered environmental agencies, was the attitude towards the private sector, and the way that reflects in the relationship between those of us that are all trying to find answers. The private sector is an important participant in the process, not an adversary.

Mr. HALL. Absolutely. I don't know whether Mr. O'Connor wants to add anything to that.

Mr. O'CONNOR. I would be happy to.

Mr. OXLEY. The gentleman may respond and then the gentleman's time is expired.

Mr. O'CONNOR. Perhaps I inappropriately chose words when I described my opinion about some of the positions that are being taken. But I can assure you, Mr. Congressman, that I have worked daily with Mr. McKnight, that I have worked daily with representatives of the responsible party community in this country, and every settlement that NOAA has been involved in has been as a result of my own personal engagement and the relationship that I have with industry.

I suggest that some of the proposals that are being posited are inappropriate and perhaps I chose the wrong word. But occasionally, it is convenient to use a word that captures the essence of how I feel about something, and I am not obviously reflecting the posi-

tion of the administration. It is the position of an individual who has dealt with these issues, knows what reality is, and knows how much we can accomplish together if we do not have an adversarial relationship.

Mr. BILBRAY. Mr. Chairman, I know my time is up, but I would just like to say that when someone uses a term indicating any type of prejudice and preconceived ideas, that is not consistent with a civilized relationship. We have people who have used certain types of terminologies about different segments of our community, and we have said that the real problem isn't that they said the word; it is that it indicates an attitude and a prejudice against certain individuals in our society.

When it comes to the relationship to the public and private sector, that kind of prejudice, in my opinion, is just as destructive. And the real concern is not that you said the word, but that it showed an underlying feeling of contempt towards a segment of society that in effect pays every one of our paychecks, and produces the great things in our society. We should not be approaching the private sector as if they are the enemy.

There are mistakes that have been made out there, but the private sector are our greatest ally in our environmental strategies and we have got to tap in those resources in a cooperative manner, not with these kind of terminologies or with this negative kind of attitude.

Mr. OXLEY. The gentleman's time has expired.

The gentleman from Massachusetts, Mr. Markey.

Mr. MARKEY. Thank you, Mr. Chairman, very much.

The issue, it seems to me, boils down to who is going to pay and it is whether or not private sector companies are going to pay or the taxpayer is going to pay. I don't want the taxpayer to pay. That is the bottom line in this debate.

The taxpayer has no responsibility, was not receiving any benefit from the private corporation's commercial endeavor, and yet public property was damaged. So you have almost a reverse of this public takings, okay? On the one hand, we want to pass legislation to make sure that if private land is harmed by a public action, that they should be compensated, but on the other hand, what if a private company is hurting public land. Who is going to pay?

It seems to me it shouldn't be the taxpayer. I mean, that is the whole, I think, nub of the argument that we are trying to make this year in the Congress.

So you have got this heavy metal which is flowing down a river out of a corporate entity and it has damaged the river. Now, personally, I don't like to listen to heavy metal, and I wouldn't want to eat it either, you know, so clearly the salmon, which had been spawning in this river or any other fish, is not going to be anything you are going to be able to market, but yet probably a high percentage of the salmon which I am eating up here in Washington D.C. is coming out of the Pacific Northwest from someplace. I mean, it is a pretty big industry up there and we just don't have that much floating off of Massachusetts that we would like, so we will sell you swordfish, but probably not the salmon.

So my question is, who is going to pay? And your answer is, Mr. McKnight, essentially, well, we would like to help you out, we

would like to clean it up, but at certain times, you have just got to make a decision that we are going to have to declare that certain areas are national industrial production sacrifice zones, you know, and we are going to have to take these areas of the country and write them off. They are going to be sacrifice zones for the private sector. Sorry about your river, sorry about your wetlands, sorry, we didn't know.

Of course, you are saying we didn't know when it is 1980, we didn't know when it is 1985. All right, 1910, 1920, 1930, they are building all these places on rivers across the country; that is one thing. I can appreciate this, but it is 1980, you know? Earth Day is 10 years old at this point.

So it is not as though you didn't know or shouldn't have known. It is not as though this is your grandfather getting off the boat from Ireland or Italy or Poland and we need jobs and we are ignorant of the environmental concerns. It is the 1980's. We know what is going on, and the companies do as well, and that is why midnight dumping and clandestine dumping activities were so prevalent, and still are today, by the way, which is why we need environmental police forces out there tracking down these companies that continue to engage in this kind of activity. It is the way it is. You can cut your costs.

So I guess my question to you is, your basic point is, Mr. McKnight, that this river just can't be put back into use as a source of fishing or recreation the way it had been and that we will just find some other substitute location; is that your basic point?

Mr. MCKNIGHT. Well, Mr. Congressman, I have two points. First, it is very important as we talk about the natural resource damages program to understand that natural resource damages follows the cleanup side of the program, and the cleanup side is unlimited in terms of potential liability. There is no $50 million cap on the cleanup side. It is also unlimited with respect to retroactive liability. So companies like mine are required to pay the full cost of remediation with respect to that particular resource, and remediation means whatever action is necessary to fully abate the harm to public health and the environment.

The second point I want to make, Mr. Congressman——

Mr. MARKEY. Do you support that or oppose that?

Mr. MCKNIGHT. Mr. Congressman, we have——

Mr. MARKEY. Do you support that or oppose that?

Mr. MCKNIGHT. We have certainly supported——

Mr. MARKEY. Remediation.

Mr. MCKNIGHT. We have certainly supported remediation and continue to support remediation. I don't know what the coalition as a group's position is on the retroactive application of CERCLA.

Mr. MARKEY. Which are you, Mr. McKnight?

Mr. MCKNIGHT. Aluminum Company of America has no problem with the retroactive application of CERCLA. We also have no problem with some alternative means of funding for the remediation program, a broader funding program.

Mr. MARKEY. Taxpayers you mean?

Mr. MCKNIGHT. A broader funding program.

Mr. MARKEY. Talking about the taxpayers?

Mr. MCKNIGHT. I am talking about a broader funding program than the program that is currently in place——

Mr. MARKEY. Are you talking about taxpayers?

Mr. MCKNIGHT. [continuing] which places the full amount——

Mr. MARKEY. Please, Mr. McKnight, help me out. Are you talking about taxpayers? Yes or no.

Mr. MCKNIGHT. I am talking about including everyone who benefits from the restoration or remediation——

Mr. MARKEY. Are you talking about the taxpayers, Mr. McKnight? Yes or no. Answer yes or no.

Mr. MCKNIGHT. No. The funding programs that we have proposed do not include individual taxpayers.

Mr. MARKEY. Who pays then? Give me the other people.

Mr. CRAPO [presiding]. The gentleman's time is expired.

Mr. MCKNIGHT. Can I just make my second point?

Mr. MARKEY. You haven't made a first point yet, Mr. McKnight.

Mr. CRAPO. The witness will be allowed to make his second point and then we will go to the next speaker.

Mr. MCKNIGHT. The second point, Mr. Congressman, is you are talking about putting the cost on the taxpayers. Mr. Hall, if I understand his testimony previously, told us that his expectation with respect to DOE's natural resource damage liability is 10 percent. Ten percent of $300 billion is $30 billion. That is a big ticket to put on the taxpayers right there, and I suspect that that is a very conservative estimate.

Mr. MARKEY. I agree with you, and it is the back end payment for a lot of things that went on, and I don't want the taxpayers to pay for it. I want those that profited commercially from their activity to have to pick up the tab, not the taxpayers.

Mr. MCKNIGHT. Well, we are talking here about Federal facilities.

Mr. MARKEY. In Federal facilities, there is no question the taxpayer has to shoulder the burden and that cost has been hidden from them, and it is a good reason why the Department of Energy is going to have to continue on into the indefinite future in order to, as a Federal entity, take care of a problem that was created.

Mr. CRAPO. The Chair recognizes the gentlewoman from Oregon for a unanimous consent request.

Ms. FURSE. Thank you, Mr. Chairman. I would like to have Secretary Hall and the two State witnesses provide in writing for me their answers to my previous question to Mr. McKnight regarding the shift of costs to the taxpayers at the eight sites which I mentioned. I can give you the list.

Thank you, Mr. Chairman.

Mr. CRAPO. Without objection.

And did the gentlemen understand the request?

Mr. HALL. Yes, I did.

[The following responses were received for the record:]

RESPONSE TO QUESTION OF HON. ELIZABETH FURSE BY NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

SITES AFFECTED BY REPEALING NRD LIABILITY FOR PRE-1980 CONDUCT

The following provides information in response to the Honorable Elizabeth Furse's question regarding the impact of eliminating liability for natural resource damages

for pre-1980 disposal activities. In sum, this proposal would effectively eliminate the Federal, State and tribal natural resource damage programs under CERCLA and have a devastating impact on pending natural resource damage claims.

Natural resource injuries cannot be meaningfully addressed with a focus solely on the date of disposal of hazardous substances. First, many hazardous substances are extremely persistent in the natural environment, naturally degrading into harmless chemicals over many decades, if at all—many substances do not naturally degrade. Second, many, many types of these persistent hazardous substances can be metabolized by animals through feeding habits, and then these chemicals are passed on to higher levels of the foodchain. In many instances, contaminant concentrations are biomagnified—present in greater concentrations at increasingly higher levels of the foodchain than at the bottom of the foodchain or in water or sediments. Thus, it not only takes very small concentrations and amounts of these substances to cause injury throughout a foodchain, substances that were disposed of in the past and let unremediated will likely continue to cause injury into the future, as the substances are passed through different animal tissues, possibly including humans. Given this cumulative nature of ecological injuries caused by persistent hazardous substances, restoration based solely on the date of disposal, and not on the fact of continuing injury, would be meaningless, if allowed at all, under some proposed liability reforms.

Many local communities depend upon healthy and abundant natural resources to support a variety of commercial and recreational activities and to sustain their economic health and way of life. Because the Superfund is not available to pay for restoration of these injured resources, repealing liability for pre-1980 conduct will mean that local communities will be saddled with the costs associated with continuing injury to natural resources resulting from past massive contamination at hazardous waste sites across the country.

Trustees are currently investigating eight sites involving massive past disposal activities that have resulted in current natural resource impacts. We must point out, however, that there may be other sites, such as the LCP Chemicals site in Brunswick, Georgia, where the enormity of present contamination resulting from past disposal practices is only now becoming fully understood. The eight known hazardous waste sites involving massive past disposal activities include the Clark Fork River basin in Montana, Bunker Hill in the Coeur d'Alene basin in Idaho, Lavaca Bay on the Texas coast, the Hudson River watershed in New York, the Housatonic River watershed in Massachusetts, St. Lawrence River in New York, Saginaw Bay in Michigan and the Los Angeles Harbor off southern California. For each of these sites, most or all disposal activities occurred prior to 1980. These communities have already suffered losses from the initial injuries to resources associated with these sites. If liability for pre-1980 disposal activities is eliminated, the local communities surrounding these sites will continue to suffer the harm and losses associated with the injured natural resources. In some instances, these injuries are the result of decades of harmful disposal practices that will not be easily abated and restored. Accordingly, the practical effect of the proposed repeal of retroactive liability will be that significant natural resource injuries will go unaddressed, negatively impacting the welfare and livelihood of the American public.

To more clearly illustrate the effects of this proposal on local communities, the following provides more detailed information on the type of harmful disposal practices and extent of contamination that exists today at the eight major sites previously identified, and estimated NRD claims at those sites, based on existing information.

CLARK FORK, MONTANA

Trustees: State of Montana, Department of the Interior (DOI).

Major Potentially Responsible Party(s) (PRP): ARCO.

One of the largest NPL sites in the United States, with extensive contamination is the Silver Bow Creek drainage, caused by hundreds of mining, milling, and smelting operations. ARCO, which purchased the Anaconda Mining Company, is the major PRP.

According to the Montana Attorney General's office, trees and vegetation do not grow, and wastes in the water continue to release substances into groundwater and surface water. Silver Bow Creek (25 miles long) contains no fish, 125 miles of the Clark Fork River are also impacted and 600,000 acre feet of groundwater are contaminated. Trout populations into the River are one-sixth what they would be if hazardous substances had not been released.

Estimated NRD claim: $500–$750 million.

LOS ANGELES HARBOR, CALIFORNIA (MONTROSE)

Trustees: State of California, National Oceanic and Atmospheric Administration (NOAA), DOI.

Major PRP's: Montrose Chemical Corporation of California, Westinghouse Electric Corporation, Rhone-Poulenc Basic Chemicals, Co., Atkemix Thirty-Seven, Inc., ICI American Holdings Inc., Chris-Craft Industries, Inc., Stauffer Management Co., Potlatch Simpson, Los Angeles County Sanitary District.

Montrose operated a DDT manufacturing plant in Torrance, California, from 1947 to 1982. Westinghouse Electric operated a transmission equipment and maintenance and repair plant in Los Angeles from the late 1950's until its closing in the early 1990's.

Discharges of DDT and PCB's through the Los Angeles sewer system have contaminated large areas of the marine environment along the southern California coast. Studies by the United States Geological Survey (USGS) in 1992 and 1993 have shown the layer of contaminated sediments to be 2 inches to 2 feet thick and covers an area of more than 20 square miles.

The high concentrations of DDT and PCB in the sediments are toxic, resulting in the death of crustaceans and other bottom dwelling organisms that form the basic food supply for many coastal fish. Studies show that contaminated fish, bald eagles and peregrine falcons are failing to reproduce. In the last year, an adult bald eagle died in seizures resulting from DDT accumulation over its lifetime that caused deterioration of the nervous system. The tissues of this bird contained some of the highest concentrations of DDT ever measured in animals, anywhere, demonstrating that the problems caused by past disposal are not decreasing in magnitude today, the problems continue to grow.

The State of California has issued health advisories regarding consumption of nine species of common sport fish, as DDT and PCB's also cause adverse effects in humans, including birth defects. The State also closed a commercial fishery. Despite these fishing advisories, recreational fisherman continue to fish in contaminated areas and eat their catch.

Unless steps are taken to remove or contain this mass of contaminants, they are likely to continue to cause problems for the next 100 years or more. In fact, the magnitude of ecological problems could worsen, as the most contaminated layers of the seafloor are expected to be exposed to the environment through erosion.

Estimated NRD claim: $500–$650 million.

BUNKER HILL/COEUR D'ALENE BASIN, IDAHO

Trustees: DOI (Fish & Wildlife), United States Department of Agriculture (USDA)/ Forest Service, Coeur d'Alene Tribe (State of Idaho settled its claim).

Major PRP's: Asarco, Hecla Mining, Gulf Resources and Chemical Company, Union Pacific Railroad Company.

Decades of mining and smelting, mostly pre-1980, have resulted in the discharge of approximately 72 million tons of mine and mill tailings into the South Fork of the Coeur d'Alene river, which flows into Lake Coeur d'Alene. Toxic heavy metals present in mine discharges include arsenic, lead, cadmium, and zinc. Sediments contaminated with heavy metals have also spread throughout the river's flood plain and the Basin. These discharges have resulted in extensive poisoning of vegetation, fish, and other wildlife, which has in turn resulted in poisoning and death of migratory bird species.

Estimated NRD claim: $1 billion.

LAVACA BAY, TEXAS

Trustees: NOAA, DOI, State of Texas.

Major PRP: ALCOA.

Since 1948, ALCOA operated an aluminum smelter and associated refining and chemicals operations at Point Comfort, Texas, on Lavaca Bay. Through approximately 1970, ALCOA discharged large quantities of mercury-contaminated process waste from a chlor-alkali production unit directly into Lavaca Bay. In 1970, ALCOA reported a loss of 163 lbs/Hg per day, of which 63 lbs/day was estimated to be discharged with waste water.

Mercury is extremely toxic to humans and other animal species, does not degrade in the natural environment, and bioaccumulates in living tissue and thus can be gradually taken up through the food chain, including humans. The mercury in bay sediments is bioavailable and serves as a continuing source of food chain contamination. Mercury contamination of Lavaca Bay has resulted in numerous human health advisories and fishing closures, including closures for blue crabs, finfish, and oys-

ters. Many of these closures remain in effect today. The closures have significantly injured the local fishing industry. Ecological effects caused by mercury in the environment include impaired reproduction (e.g., deformed fish fry), impaired growth rates, and direct toxicity.

There is no evidence that the levels of mercury contamination in the environment and the fish of Lavaca Bay are decreasing over time, suggesting that natural recovery is not likely for this system.

ALCOA has agreed to perform remedial investigation work, as well as assessing health and ecological risk. However, ALCOA has not resolved the bulk of its liability for natural resource damages at the site.

Estimated NRD claim: as high as $250 million, without any source control.

ST. LAWRENCE RIVER, NEW YORK

Trustees: State of New York, St. Regis Mohawk Tribe, DOI, NOAA.

Major PRP's: General Motors, ALCOA, Reynolds Aluminum.

GM, ALCOA, and Reynolds operate aluminum production facilities in Massena, New York. For several years, through approximately the mid-1970's, these plants discharged PCB's into the St. Lawrence River.

PCB contamination in at least 16 species of fish exceeds 1 mg/kg—a level that has been shown to cause sublethal toxic effects on aquatic organisms. Further, New York State and the St. Regis Mohawk Tribe have issued health advisories against the consumption of fish harvested from the Massena area of the St. Lawrence River basin. Health advisories and public awareness of PCB contamination in the area have resulted in the discontinuation of several professional fishing guide services and fish camps operated by the St. Regis Mohawk Tribe.

Estimated NRD claim: $20–$30 million, if remedial actions are implemented and source control is effective at eliminating future natural resource injury.

HUDSON RIVER WATERSHED

Trustees: State of New York, DOI, NOAA.

Major PRP: General Electric (GE).

Ending in 1977, 30 years of PCB discharge from two GE electrical equipment manufacturing facilities (near Fort Edward and Hudson Falls, New York) have been associated with extensive PCB contamination of the Hudson River.

The Hudson, which provides habitat to numerous species of fish, has been seriously adversely affected. Elevated levels of PCB's in striped bass and other species have resulted in the closure of both commercial and recreational fisheries since 1976. Health advisories regarding frequency of consumption have been issued for other species of fish. Ecological effects of PCB's in animals include cancer (a known human carcinogen), reproductive impairment (e.g., mortality or deformities in early life stages), and direct toxicity. About 200 river miles downstream from the site are contaminated with PCB's. There is no evidence of any decrease in concentration of PCB's from sediment hotspots or in fish over time.

Estimated NRD claim: $50–$60 million, if remedial actions are implemented and source control is effective at eliminating future natural resource injury.

HOUSATONIC RIVER WATERSHED

Trustees: State of Massachusetts, DOI, NOAA.

Major PRP: General Electric (GE).

For approximately 30 years ending in the mid-1970's, a plastics manufacturing plant in Pittsfield, Massachusetts, owned and operated throughout by GE, discharged PCB's though its waste water directly into the Housatonic River.

The releases of PCB's have caused extensive impacts in the River and floodplain. Elevated levels of PCB's in the majority of fish species in the River far exceed 1 mg/kg—a level that has been shown to cause sublethal toxic effects on aquatic organisms. Furthermore, elevated level of PCB's in fish and terrestrial animals have triggered the states of Connecticut and Massachusetts to issue health advisories against the consumption of fish harvested from the River beginning in 1976. Health advisories and public awareness of the extensive PCB contamination in the area have resulted in the discontinuation or curtailment of many activities in the River. Concentrations of PCB in water samples also exceed standards for protecting aquatic life and standards for protecting humans from excess cancer risks.

Estimated NRD claim: $25–$30 million, if RCRA corrective actions are implemented and source control is effective at eliminating future natural resource injury.

SAGINAW BAY, MICHIGAN

Trustees: DOI, State of Michigan, Saginaw Chippewa Tribe.
Major PRP: General Motors (GM), Dow Chemical

GM owns four auto parts manufacturing facilities on the Saginaw River. Beginning in the 1950's through the early 1970's, these facilities used large quantities of hydraulic oils, heavily laden with PCB's. GM discharged PCB's directly into the Saginaw River, contributed PCB's to the river through their effluent into local waste water treatment plants, and stored PCB's on site. Even after the facilities stopped using PCB's significant amounts continued to be released to the river through on-site contamination leaching and sloughing off into the river.

Other contributors include Dow Chemical (for dioxin) the Saginaw Bay and Bay City waste water treatment plants (largely from GM's PCB-laden effluent), and the Middlegrounds landfill. Today, approximately 22 miles of the Saginaw River and the 1,143 square mile area of the Saginaw Bay have been contaminated by these discharges and releases. There are an estimated 88,000 pounds of PCB's in Bay sediments, and through resuspension of contaminated sediments and continuing releases, the Saginaw River still continues to contribute approximately 125 kg/year of PCB's to Saginaw Bay.

This long-term chronic contamination has had, and continues to have, a significant impact on a wide variety of natural resources. Some species of fish continue to be so contaminated that the State has issued health advisories to restrict or ban their consumption. Several species of migratory waterfowl have had high amounts of PCB's and dioxins in eggs, have had reduced reproductive success, and/or have been borne with deformities (including cross-bill syndrome). Bald eagles have also suffered reduced reproductive rates from PCB's, and PCB's continue to be found in eagle eggs.

Estimated NRD claim: $40–$50 million.

ASTSWMO Response to Congresswoman Furse's Question for the Record

ASTSWMO appreciates the opportunity to respond to the question regarding retroactive liability and the $50 million cap that was posed to the ALCOA representative during the June 20, 1995 Subcommittee hearing. Specifically, ASTSWMO opposes the elimination of retroactive liability for natural resource damages and State Waste Managers do not support a cap for natural resource damages.

In terms of the program overall, State Waste Managers believe that these particular industry proposals (i.e., eliminating retroactive liability for pre 1980 sites and capping NRD awards at $50 million) will shift the costs of restoration to the tax paying public. Currently, the CERCLA statute specifically prohibits the use of fund money for either assessments or restoration of natural resource injuries. Therefore, if retroactive liability is eliminated many of these sites simply will not be restored. At best, the American public will have to shoulder the cost of restoration or the consequences of the lingering injuries and State Waste Managers believe this would be unfair and detrimental for public health, the environment and the economy. See attached ASTSWMO Natural Resource Damage Position paper.

State Waste Managers also do not believe it is fair to cap natural resource damages at $50 million per site. The majority of natural resource damages settlements are valued at far below $50 million per site. However, there will be a few sites, like the sites referenced by Congresswoman Furse, where the damage to natural resources is extreme and the restoration will most likely exceed $50 million per site. We question the rationale of capping natural resource damages. In past history when Congress has placed a financial cap on a program, the primary intent was to protect the federal treasury. As indicated, it is prohibited to use trust fund monies for restoration, therefore, the argument for the cap can be viewed as irrelevant. Also, we question the signal that will be sent by capping these awards—namely, if one causes great harm to the environment the taxpayers will be forced to bear the cost of restoration, but only if one causes truly serious harm. It also must be noted that State trustees rarely seek restoration to baseline, routinely seek replacement options and are currently seeking methods for integrating natural resource damages into the remedial process thereby lowering the costs of restoration. If restoration costs still exceed $50 million then it is a certainty that grave harm was caused and we believe those responsible should have to bear the brunt of restoring the injured public resources. Regarding the specific sites referenced in your questions (i.e., the Clark Fork River, Montrose, Coeur d'Alene, Lavaca Bay, St. Lawrence River, Hudson River, Housatonic River and Saginaw Bay, ASTSWMO is not in a position to respond in detail. However, in general, we can state that each of these sites involves substantial resource injuries that are impacting entire bays and river basins, fish-

eries, public drinking water supplies and wildlife, including endangered species. The consequences of these injuries go beyond the natural resources themselves and are amplified when considering the impacts these sites have on local economies and public health. For almost all of the above-mentioned sites, the majority of polluting activities occurred pre-1980 (as is the case with most Superfund sites) therefore, if retroactive liability is eliminated the costs to restore these sites would shift to the American taxpayer.

ASTSWMO CERCLA Natural Resources Damages Position Paper

States have a legal responsibility to oversee natural resources, such as fish and wildlife, as natural resource trustees. Specifically, the State trusteeship for natural resources derives from the common law public trust doctrine which has been interpreted to impose upon the States an obligation to conserve and administer natural resources that are held in trust for the benefit of the public. The CERCLA provisions that provide for natural resource damages and restoration of injured resources codify the States' responsibility to be stewards for their citizen's natural resources. In addition to a legal obligation as trustees, however, each State also has additional incentives for restoring natural resources injured by hazardous releases: natural resources play a significant role in every State's economy. Tourism dollars and direct State revenues are very dependent on functioning natural resources, particularly at the local and regional level.

CERCLA was enacted by Congress to address the threats to the public and the environment posed by the legacy of improper handling and disposal of hazardous materials at contaminated sites throughout the country. While CERCLA was established primarily to clean up these sites in the past and future, Congress had the foresight to enable government agencies to "complete" the cleanup process by providing for the ability to restore natural resources damaged by these sites. Hence, the CERCLA provisions that impose liability for damages for injuries to natural resources are designed to provide compensation in an amount that will be used to "restore, replace or acquire the equivalent of those impacted resources" CERCLA sec. 107(f)(1). While CERCLA cleanups are designed to abate the contaminant source to protect human health and the environment from further harm, the CERCLA natural resource damage program completes the task by restoring these public resources. Addressing natural resources not only provides for restoration of injured resources but compensates the public for the loss of resources from the time of the release through the cleanup, and sometimes for many years after. Congress recognized the need for natural resource damage provisions because while a cleanup can successfully eliminate or isolate the contamination, it may not be able to adequately restore the public's damaged resources.

Specifically, natural resource damage assessment is the process of evaluating losses that result from an injury to, destruction of, or loss of a public resource. While the definitions of destruction and loss are clear (i.e., fish mortality), injury has been interpreted to mean that some reduction of services that would normally have been provided by the resource are now no longer provided as a result of the release. Thus, the term "injury" is commonly used when discussing "destruction and loss". Once an injury has been documented, the trustees begin the process of evaluating the losses that may flow from an injury to a public resource. Trustees evaluate these losses and can then calculate a monetary "damage" figure to be presented to responsible parties in order to obtain funding for restoration projects as compensation for the injuries. In the alternative, trustees may seek to identify restoration projects that can be performed by responsible parties with trustee oversight.

The level of compensation pursued to achieve restoration is based on the cost of restoration plus the past losses associated with the resource injury and any future losses due to continuing harm. Past and future losses associated with an injured public resource may include direct and indirect losses. Direct losses are the actual injuries to a resource plus any loss of services provided by those resources (i.e., loss of ability to fish a stream). Direct loss is therefore a loss attributed to biological injury and its resulting impacts associated with the public's inability to actually use or access the injured resource.

Indirect loss, otherwise known as "non-use" or "passive loss", is determined by the value that society places on the existence of a resource. This should not be confused with direct use losses. CERCLA authorizes trustees to pursue indirect losses along with direct losses, in order to achieve the full level of restoration necessary to compensate the public for harm to natural resources. The ability to recover indirect losses is important because many types of natural resources are not directly used by the public, nor bought or sold in markets, yet can be of significant value to people (e.g., bald eagles, sea otters).

The pursuit of natural resource damages through negotiations or the filing of legal claims is not an effort to exact punitive relief—funds obtained by the trustees as compensation are mandated to be used to restore resources for the losses suffered by the public as a result of the release.

ASTSWMO proposes the following recommendations for improving the natural resource damage program under CERCLA:

ISSUE: USE OF THE SUPERFUND FOR COORDINATION AND ASSESSMENT OF NATURAL RESOURCE DAMAGES

Discussion:

Funding from Superfund: CERCLA as amended by SARA includes language which indicates the appropriate uses of the Superfund with respect to NRD. CERCLA section 111(b)(2) states that the Superfund cannot be used to compensate the public for NRD claims unless all administrative and judicial remedies have been exhausted; however, the term "NRD claims" shall not include the costs of the assessment. Furthermore, CERCLA section 111(c)(1) goes on to indicate that use of the Superfund does include the cost of assessing both short-term and long-term injury to, destruction of, or loss of any natural resources resulting from a release of a hazardous substance.

These above referenced sections of CERCLA serve to allow the Trustees to recover from the Superfund for both the costs of the NRD assessment as well as the NRD claim itself with the latter only under certain circumstances. Thus it can be concluded that Congress intended for Trustees to utilize the Superfund for certain NRD purposes. Contradictory provisions, however, were inserted into section 517(a) of SARA which amended the Internal Revenue Code section 9507 (subchapter A of chapter 98). These provisions limited the use of the Superfund by excepting its uses for the purposes of NRD assessment and payment of the NRD claim. The conflicting language has resulted in Trustees being unable to utilize the Superfund for those purposes of assessment as stated in CERCLA.

Coordination of NRD: Under CERCLA and the NCP, the lead agency (EPA) is directed to notify and assist in coordination of multiple Trustees. Specifically, CERCLA section 104(b)(2) requires that the President (EPA) shall promptly notify the appropriate Federal and State Trustees of potential damages to natural resources and shall seek to coordinate the assessments, investigations, and planning of these activities. The NCP section 300.615(a) provides that where there are multiple Trustees, they should coordinate and cooperate in carrying out the NRD responsibilities.

CERCLA and the NCP are very specific about the role of EPA in notification and coordination of NRD. This has been prohibited in the past because of contradictory language contained in the IRC stating that the fund cannot be used for assessments. Coordination by EPA is an integral part of the NRD assessment. Through improved EPA coordination, NRD assessments could be conducted on a faster track and to an earlier stage in the Superfund process, e.g., during the RI/FS phase. As a result, the NRD assessment would be assured to be consistent with the remedy selection process and settlements with responsible parties for response costs and NRD claims would not be delayed due to NRD since Trustees would be better informed at this stage of negotiations.

Recommendation:

ASTSWMO recommends that Section 9507 of subchapter A of chapter 98 of the Internal Revenue Code that prohibits use of the Superfund for reimbursement of a Trustee's costs in assessing NRD be repealed. This change would provide Trustees with the ability to evaluate natural resource damage issues during the RI/FS and be assured that assessment costs could be reimbursed. At the same time, ASTSWMO supports retaining the restriction on the use of the Superfund for the costs of restoration of injured resources or for the damage claims themselves. Without the accompanying increased level of funding, the Superfund could not withstand covering the costs of restoration as well as remediation activities. ASTSWMO also recommends that EPA be afforded the opportunity through the repeal of section 517(a) of SARA to coordinate the involvement of State and Federal trustees into the investigations and assessments as required under CERCLA.

ISSUE: DEVELOPMENT OF EXPEDITED ASSESSMENT TECHNIQUES

Discussion:

At this time the Department of Interior damage assessment rules (43 CFR Part 11) provide only two types of approaches to assessment: the simplified type A model

approach and the comprehensive Type B procedure. The Type B procedures are reserved for complex sites or releases and they include a range of scientific and economic methodologies that trustees may apply on a site-specific basis to determine the injury and compute damages. The Type A model was developed to meet CERCLA's mandate for "standard procedures for simplified assessments requiring minimal field observation, including measures of damages based on units of discharge of release or units of affected area." 42 U.S.C. 9651(c)(2)(A).

While the Type A model has generally met the trustees' needs with respect to hazardous substances spills in marine systems, it is largely inapplicable to releases associated with hazardous waste sites. Expedited or simplified assessment methodologies have been criticized by the regulated community due to the lack of site specific information. ASTSWMO disagrees with this contention. Techniques such as the Type A model are not meant to achieve the same level of precision as an exhaustive and expensive slate of studies. Models are tools that get parties to a starting point, from which a small additional amount of investigative effort can be performed if necessary to corroborate the model's prediction. If utilized correctly, they are valuable tools that can lead to more efficient and timely settlements. In this regard, the models and other simplified methods are an essential part of damage assessment under CERCLA.

Just as it is important for Trustees to have the discretion for evaluating the full range of damages permissible under CERCLA, it is equally critical that there be cost-effective assessment methods available to undertake these evaluations. Simplified or expedited assessment techniques help minimize transaction costs and promote more timely settlements. This benefits both the responsible party by reducing overall NRD costs and liability, and the public in general, as restoration is initiated sooner. Therefore, ASTSWMO endorses the further development of simplified damage assessment techniques as part of the damage assessment regulations promulgated pursuant to CERCLA.

Finally, to the extent new simplified methods are developed, DOI should utilize the current boom in the growth of electronic data bases (Geographical Information systems) to tailor models to even more specific geographic regions. The use of such readily available data, as well as developments in other relevant fields, will enhance the accuracy of the new methodologies.

Recommendation:

ASTSWMO endorses the use and further development of simplified damage assessment techniques as part of the damage assessment regulations promulgated pursuant to CERCLA.

ISSUE: DEVELOPMENT OF REGIONAL RESTORATION PLANS FOR NATURAL RESOURCE DAMAGES

Discussion:

Section 107(a) of CERCLA provides that responsible parties shall be liable for damages for injury to, destruction of, or loss of natural resources, including reasonable costs of assessment, as a result of a release of a hazardous substance. This section further states that sums recovered by the U.S. Government and a State or Indian tribe shall be retained for use only to restore, replace, or acquire the equivalent of such natural resources, but that the measure of damages shall not be limited by the sums which can be used to restore or replace such resources.

To date, however, the focus of restoration planning and restoration activities has typically been site-specific, in part due to a conservative interpretation of the provisions of Section 107(f) which requires that "sums recovered shall be available for use to restore, rehabilitate or acquire the equivalent..." of natural resources injured as a result of releases from a site. There are many instances where it may be less effective from a restoration standpoint to design and implement an on-site restoration plan where multiple Superfund sites are separately impacting the natural resources of a larger ecological unit such as a stretch of river or an entire watershed. Developing separate restoration plans from a number of relatively small cash settlements can also be less cost-effective than, where feasible, combining such settlements and applying the funds toward a more regional restoration planning effort or towards a regional restoration plan which has already been developed. The lack of statutory language explicitly allowing such an approach appears to hinder this type of efficient use of recovered funds.

Recommendation:

ASTSWMO recommends the inclusion of language which explicitly acknowledges the legitimacy of regional restoration plans and the application of damages towards

such plans into the statute. This change would provide States and the other trustees with the flexibility to make more efficient and cost-effective use of damages, reduce transaction costs for PRP's, and achieve greater environmental benefits for the public.

ISSUE: STATUTE OF LIMITATIONS FOR NATURAL RESOURCE DAMAGE CLAIMS

Discussion:

For natural resource damage (NRD) claims, the statute of limitations provision in sections 112(d)(2) and 113(g)(1) of CERCLA was last updated in 1986. Except for sites listed on the CERCLA National Priorities List or otherwise scheduled for a remedial action, the statute provides that an action for natural resource damages must be "commenced within 3 years after the latter of the following:

(a) The date of the discovery of the loss and its connection with the release in question; and (b) The date on which regulations [for natural resource damage assessments] are promulgated under section 301(c)."

Both of these provisions of the CERCLA statute of limitations are ambiguous,and each has generated considerable disagreement and confusion. The first provision is extremely vague. Precisely what constitutes "discovery of the loss" and "its connection with the release" is subject to a wide range of interpretations and will be the subject of unproductive legal disputes.

The second provision also is ambiguous because the date of promulgation of the CERCLA damage assessment regulations by the U.S. Department of Interior (DOI) has occurred in piecemeal fashion spanning 9 years, and there is no single "date" or promulgation as referenced by statute. Courts that examined this issue have confirmed, not eliminated, the ambiguity. One court ruled that the 3-year period began when the first "Type B" regulations were promulgated in 1986; another held that the period began when the first "Type A" regulations were promulgated in 1987. DOI takes the position that the regulations were promulgated on March 25, 1994, the date of the most recent promulgation (DOI Final Rule, 59 Fed. Reg. 14262, March 25, 1994). However, certain parts of the "Type A" regulations have not yet been proposed, not to mention finalized.

To ensure that public rights are protected and to minimize the risk of forfeiting a claim on statute of limitations grounds, trustees may sometimes be forced to bring a premature action for natural resource damages, i.e., before a damage assessment has been completed and before the trustees can articulate the true nature or extent of the injury that exists. Also, if final restoration costs are underestimated, then this awkward option may cause the public not to be fully compensated for its loss.

While it is problematic to link the statute of limitations to the NRDA regulations, we believe a better approach would be to tie the statute of limitations to a trustee's completion of an activity specified by the regulations—namely the NRD assessment. Linking the statute of limitations to the completion of an actual assessment is a common-sense approach as at this point the Trustees will have a better understanding as to the true nature and extent of the natural resource injuries.

Recommendation:

CERCLA should be amended to state that a claim by a trustee for damages to natural resources must be brought within 3 years of completion of a natural resource damage assessment (NRDA) by the trustees. Such an amendment would eliminate ambiguity in the current CERCLA statute of limitations for NRD claims.

ISSUE: THE PROPER USE OF CONTINGENT VALUATION METHODOLOGY (CVM)

Discussion:

In order to achieve the CERCLA goal of restoration, it is important for Trustees to be able to evaluate the full range of direct and indirect losses associated with natural resource injuries. Indirect losses do not always result when a resource is injured. However, when the indirect losses are a significant part of the overall damages, the tool most appropriate to measure this loss is CVM. The use of sophisticated and expensive surveys of the public (CVM) has traditionally been reserved for cases where there are extensive biological and ecological injuries and a compelling public logic to the need for compensation. CVM has been used by economists for over 25 years in many contexts and more recently it has been used by agencies to assess the benefits and cost of various public policies. As such, CVM was not developed solely for use in the natural resource damage assessment process. The use of CVM for natural resource damage assessment was supported by a panel of Nobel Laureate economists engaged by NOAA during the Bush Administration. While the state and federal trustees do not routinely conduct CVM surveys, it is the only gen-

erally accepted tool for measuring indirect losses for those appropriate situations involving extensive harm to public trust resources (bald eagles) and should be maintained. It is important to note that current information indicates that only four CVM studies under CERCLA are being applied to natural resource damages in situations involving significant injuries.

Recommendation:

ASTSWMO supports the continued use of CVM as a tool to measure indirect losses in those situations involving severe injuries or resources of significant importance. In addition to the above outlined proposed recommendations for improvements to the NRD process, ASTSWMO does not support the following highlighted proposals which have surfaced in the debate on NRD and Superfund.

1. Eliminate retroactive liability for natural resource damages resulting from the disposal of hazardous substances prior to 1980. One must remember that Superfund's focus is primarily on old sites and that RCRA and other environmental laws were developed to address current disposal issues. Therefore, the vast majority of sites addressed by Superfund are pre-1980 sites. Current EPA figures estimate that approximately 70 percent of the sites on the National Priorities List are responsible party lead sites. This proposal, therefore, would basically shift the responsibility for injured natural resources from the responsible party to the general public, even though the effects of the lost natural resources are still being felt today. Therefore, ASTSWMO favors retention of retroactive liability as the best mechanism for addressing injured natural resources.

2. Maximum NRD award allowable at each site shall be limited to $50 million. Most large Superfund sites involve multiple releases of many different kinds of hazardous substances. The impacts from each release have injured a wide range of resources that exist in complex ecosystems. As part of CERCLA's goal to make the public whole for injuries to its resources, a primary goal of the NRD provisions is *restoration.* Therefore, it is important to provide sufficient ability to obtain adequate *compensation* to accomplish restoration and achieve the intent of Congress. These provisions should not be interpreted as punitive measures, to be manipulated in an arbitrary manner. While not all sites will rise to the level of $50 million, the States have past, current, and future cases that surpass such an arbitrary threshold. Imposing this new cap will shift the cost of restoring resources at these larger or complex sites from the responsible party to the innocent public.

3. Damages shall not exceed three times the market value of the injured resources. It is clear that through the enactment of the NRD provisions of CERCLA and the mandate for NRD rules, Congress was declaring its dissatisfaction with the common law and its inability to make the public whole when resources were injured. In *Ohio* vs. *DOI,* 880 F. 2d. 432, the United States District Court, D.C. Circuit struck down portions of the DOI NRD rules under CERCLA because they conflicted with Congressional intent: the rules relied on a damage valuation scheme (i.e., "the lessor of rule") that favored the market value of resources over what it costs to restore, thereby perpetuating the inability to compensate the public (i.e., market value is an inadequate measurement and would always be less than the cost of restoration). Now, to revert back to the use of three times the market value as another cap would again contravene the original intent of Congress and result in the failure of the trustees to be able to fully compensate the public for the damages suffered.

Summary of ASTSWMO Position:

CERCLA should be amended to state that a claim by a trustee for damages to natural resources must be brought within 3 years of completion of a natural resource damage assessment (NRDA) by the trustee. Such an amendment would eliminate ambiguity in the current CERCLA statute of limitations for NRD claims.

ASTSWMO supports repeal of Section 9507 of subchapter A of chapter 98 of the Internal Revenue Code that prohibits use of the Superfund for reimbursement of a Trustee's costs in assessing NRD. This change would provide Trustees with some assurance that the costs of the assessment could be reimbursed and give incentive to Trustees to assess viable NRD claims. At the same time, ASTSWMO supports retaining the restriction on the use of the Superfund for the costs of restoration of lost resources or for the damage claims themselves. Without the accompanying increased level of funding, the Superfund could not withstand covering the costs of restoration as well as remediation activities. ASTSWMO also recommends that EPA be afforded the opportunity through the repeal of section 517(a) of SARA to coordinate the involvement of State and Federal trustees into the investigations and assessments as required under CERCLA.

ASTSWMO supports the inclusion of language which explicitly acknowledges the legitimacy of regional restoration plans and the application of damages towards

such plans. This change would provide States and the other trustees with the flexibility to make more efficient and cost-effective use of damage awards, reduce transaction costs for PRP's, and achieve greater environmental benefits for the public.

ASTSWMO endorses the use and further development of simplified damage assessment techniques as part of the damage assessment regulations promulgated pursuant to CERCLA.

ASTSWMO supports the continued use of CVM as a tool to measure indirect losses in those situations involving severe injuries or resources of significant importance.

Adopted by the ASTSWMO Board of Directors, July 12, 1995 in San Diego, California.

ATTORNEY GENERAL OF NEW MEXICO,
SANTA FE, NEW MEXICO,
July 28, 1995.

HON. ELIZABETH FURSE
Subcommittee on Commerce, Trade, and Hazardous Materials
Committee on Commerce
House of Representatives
Washington, DC

Re: Superfund Reauthorization

DEAR REPRESENTATIVE FURSE: On June 20, 1995, I testified at a hearing on the natural resource damage provisions of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) before the Subcommittee on Commerce, Trade, and Hazardous Materials. I am writing in response to your question during the hearing regarding the impact of eliminating liability for pre-1980 disposal activities on natural resource damage claims. Such a proposal has been advanced by Mr. Kevin McKnight of Aluminum Company of America (Alcoa) on behalf of the industry group called "Superfund Reform 95." Mr. McKnight also testified at the hearing. The change in the law proposed by Mr. McKnight would have the effect of virtually repealing the natural resource damage program under CERCLA; it would have a devastating impact on state and tribal claims.

Specifically, you listed eight sites and asked how much of the costs of restoring those sites would be shifted from the polluting parties to the taxpayer if such a change in the law were adopted. The eight sites are: Clark Fork, Montana; Bunker Hill/Coeur d'Alene basin, Idaho; Lavaca Bay, Texas; Hudson River watershed, New York; Housatonic River watershed, Massachusetts; St. Lawrence River, New York; Saginaw Bay, Michigan; and Los Angeles Harbor, California. These eight sites are perhaps the worst in the nation in the severity of destruction an loss of natural resources from the release of hazardous substances. Although precise cost estimates are generally not available, for each of these sites the costs of restoring injured resources will be in the millions of dollars. For each of these sites, moreover, most or all of the disposal activities occurred prior to 1980. Thus, if liability for pre-1980 disposal activities were eliminated, the costs of restoring these resources, which include several substantial recreational and commercial fisheries and other economically valuable resources—would be shifted almost entirely to the taxpayer, or, in many cases, the resources would not be restored at all.

Furthermore, natural resource damage claims for several of these sites are currently in litigation. Amending CERCLA to eliminate natural resource damage liability for pre-1980 disposal activities would be highly disruptive to these cases, terminating claims that trustees had spent substantial sums preparing and litigating. It could also create inequities for cooperative parties that may have settled their liability while "rewarding" recalcitrant parties that chose to litigate.

1. *Clark Fork, Montana.* The mining and smelting operations of the Anaconda Copper Company around Butte, Montana that created in the Clark Fork Superfund site and associated injuries to natural resources began in the 1880's and continued until 1983. After Anaconda merged with Atlantic Richfield Company (ARCO) in 1977, ARCO shut down the smelter in 1980 and the concentrator in 1983. Thus, disposal activities largely ceased in 1983.

The Butte mining and smelting operations results in widespread devastation of natural resources, and the largest Superfund site in the nation. The site includes the Berkeley Pit, a three mile long, one mile deep open-pit copper mine, which is presently filling with contaminated water. The site is severely contaminated with heavy metals and acid drainage. Some 140 miles of the Clark Fork River, including aquatic habitat and fisheries, have been adversely affected; 30 miles of the river are completely devoid of fish. Approximately 1,000 acres of riparian habitat have been

destroyed and another 4,000 acres are impacted. Approximately 18 square miles of wildlife habitat in the mountains around the City of Anaconda have been destroyed and denuded of vegetation. Approximately 610,000 acre feet of groundwater have been contaminated, and that volume is expected to reach 750,000 in the next 30 years. The State of Montana is seeking $327 million in costs plus $301 million in compensable damages from ARCO for the purpose of restoring the natural resources. If liability for the pre-1980 disposal activities were eliminated, most would be shifted from ARCO to the public. It would undermine Montana's damage claims, which have taken several years to prepare. It would totally disrupt the litigation claims, scheduled for trial in early 1997.

2. *Bunker Hill/Coeur d'Alene Basin, Idaho.* The mining operations in the Coeur d'Alene basin began in the early 1900's and continued until the late 1970's. The Bunker Hill smelter shut down in 1981, although its heaviest emissions occurred in 1974 after the baghouse caught fire and the smelter continued operating with no pollution control equipment. The mining and smelting operations released some 72 million tons of mine and mill tailings into the Coeur d'Alene basin resulting in extensive destruction to and loss of natural resources over a 120-mile stretch of the basin.

According to an engineering study, the estimated costs of restoring the watershed are $960 million. If liability for pre-1980 disposal activities were eliminated, most of these costs would be shifted from Asarco and Hecla Mining Company the responsible parties, to the public.

3. *Lavaca Bay, Texas.* From 1966 until 1970, Alcoa operated a chlor-alkali plant as part of its facility at Point Comfort, Texas and actively discharged large quantities of mercury-laden wastes—an estimated average of 63 pounds of mercury per day—into Lavaca Bay. Consequently, crabs and finfish in the Bay have been found to contain mercury at levels as high as 5.6 parts per million. The mercury contamination has resulted in the closure of a commercial fishery, and health advisories warning against the consumption of fish.

The costs of restoring these resources will be substantial, although no estimate is currently available. Virtually all of these costs would be shifted from Alcoa to the public under Mr. McKnight's proposal.

4. *Hudson River Watershed, New York.* From 1946 until 1977, General Electric Company actively discharged an estimated 500,000 to 1,500,000 pounds of polychlorinated biphenyls (PCB's) from its electrical equipment manufacturing operation into the Hudson River. As a result, PCB pollution has spread downstream, contaminating 200 miles of the Hudson River and forcing the closure of both commercial and recreational fisheries.

Again, no estimate of the costs of restoring the Hudson River is available, although those costs will certainly be substantial. If liability for pre-1980 disposal activities were eliminated, virtually all of these costs would be shifted from General Electric to the public.

5. *Housatonic River Watershed, Massachusetts.* From the late-1930's until 1978 or 1979, General Electric actively discharged PCB's from its plastic manufacturing plant in Pittsfield, Massachusetts into the Housatonic River. An estimated 39,000 pounds of PCB's are mingled in river sediments as a result. Since 1988, Massachusetts and Connecticut have issued health advisories warning against the consumption of all species of fish from the river due to the contamination.

The costs of restoring the Housatonic River will be substantial. If liability for pre-1980 disposal activities were eliminated, virtually all of these costs would be shifted from General Electric to the public.

6. *St. Lawrence River, New York.* At various times beginning in the 1950's and ending in the mid-1970's, General Motors Corporation, Alcoa, and Reynolds Metals actively discharged PCB's and other contaminants from their aluminum manufacturing plants into the St. Lawrence River and the Grasse River, contaminating over 1 million cubic yards of river sediments. Akwesasne Mohawk Indians had traditionally relied on fish from the river for sustenance. Fish in the river were found to be highly contaminated with PCB's, and elevated levels of PCB's were found in the breast milk of nursing Mohawks. New York state officials issued advisories against eating fish from the river.

I am enclosing, for the hearing record, a copy of a June 1994 New York Times article on the contamination of the river and its impacts.[1]

Although no estimate of the costs of restoring the St. Lawrence River is available, virtually all of these costs would be shifted from General Motors, Alcoa, and Reynolds to the public under Mr. McKnight's proposal.

---

[1] Keith Schneider, *River Shows Sign of Revival, But Mohawk Life Is Changed, N.Y. Times, June 6, 1994, at A1, C10.*

7. *Saginaw Bay, Michigan.* From the 1950's until the early 1970's, General Motors discharged PCB's from its automobile parts manufacturing operations into the Saginaw River. Approximately 22 miles of the Saginaw River and 1,143 square miles of Saginaw Bay have been contaminated. Michigan has issued health advisories restricting or banning the consumption of fish from the area.

If liability for pre-1980 disposal were eliminated, the restoration costs would be shifted from General Motors to the taxpayers.

8. *Los Angeles Harbor, California.* From 1947 until 1972, Montrose Chemical Corporation and affiliated Corporation actively discharged nearly five million pounds of DDT from its DDT manufacturing plant into Los Angeles and Long Beach Harbors. From 1958 until 1990, Westinghouse Electric Corporation discharged as much as 38,000 pounds of PCB's into the nearby San Pedro Channel. Commercial fisheries have been closed and other marine life has been seriously impacted as a result of the DDT and PCB contamination.

The costs of restoring these marine resources is estimated to cost roughly between $350 million and $700 million. Most of these costs would be borne by the public if liability for pre-1980 disposal activities were eliminated. Such a charge in the law would also completely disrupt the Montrose litigation.

During the hearing, you asked Mr. McKnight of Alcoa whether his proposal to eliminate liability for pre-1980 disposal activities would effectively eliminate his company's liability for natural resource damages. Although Mr. McKnight did not directly answer the question, it is clear, given the time of active disposal, that if his proposal were adopted Alcoa would have little if any legal responsibility for injuries to natural resources at Lavaca Bay or the St. Lawrence River. Indeed, during the Senate hearings last year, Mr. McKnight stated that "the overwhelming majority of Alcoa's sites are pre-CERCLA activity sites."[2]

Total elimination of liability for damages resulting from preenactment disposal activities would have a similar impact on many smaller sites around the nation involving injured natural resources. In New Mexico, for example, we have some sixty sites at which natural resources have been injured by the release of a hazardous substance, with resulting damages. All but perhaps four or five of those sites involve almost exclusively preenactment disposal. We have no state superfund law and no source of funding to conduct restoration of injured natural resources. Thus, if liability for preenactment disposal activities were eliminated, the injured resources in New Mexico would remain unrestored.

Please include this letter as part of the hearing record. I appreciate your interest in this issue, and I would be happy to answer any other questions you may have.

Sincerely,

TOM UDALL, *Attorney General.*

BY: CHARLES DE SAILLAN, *Assistant Attorney General for Natural Resources.*

cc: Members, House Committee on Commerce

[NOTE: The New York Times Article entitled "River Shows Sign of Revival, But Mohawk Life Is Changed" is retained in the Commerce Committee files.]

ATTORNEY GENERAL OF NEW MEXICO,
SANTA FE, NEW MEXICO,
July 28, 1995.

HON. MICHAEL G. OXLEY
Chairman, Subcommittee on Commerce, Trade, and Hazardous Materials
Committee on Commerce
House of Representatives
Washington, DC

Re: Superfund Reauthorization

DEAR CHAIRMAN OXLEY: I want to thank you again for the opportunity to testify before your Subcommittee on June 20 and present our views on the natural resource damage provisions of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). I hope that my testimony and the written materials will be helpful to the Subcommittee.

During the hearing, you asked about the application of natural resource damage liability to pre-1980 disposal activities. As I explained, section 107(f)(1) of CERCLA provides that there shall be no liability for damages for injury to natural resources

[2] See Superfund Reform Act of 1994: Hearings on S. 1834 before the Subcomm. on Superfund, Recycling, and Solid Waste Management of the Sen. Comm. on Environment & Public Works, 103d Cong., 2d Sess. at 395 (April 12, 1994) (statement of Kevin McKnight, Aluminum Company of America).

where the "damages and the release of a hazardous substance from which such damages resulted have occurred wholly before the enactment of this Act" on December 11, 1980. 42 U.S.C. sec. 9607(f)(1) (emphasis added). Thus, here a release occurs prior to the date of enactment and the resulting damages continue to occur after that date, liability exists for the post-enactment damages, but not for the pre-enactment damages.

Mr. Kevin McKnight of Aluminum Company of America (Alcoa) maintained that there is no liability at all for damages resulting from a preenactment release. His interpretation would, in effect, erase the word "damages" the first time it is used in the above-quoted clause. He would, in other words, effectively rewrite the statute to read that there is no liability for damages where merely the "release of a hazardous substance from which such damages resulted have occurred wholly before the enactment of this Act." His interpretation is clearly inconsistent with Congress' original intent.

During the hearing, Mr. McKnight also asserted that the explanation I provided would give no effect to the limitation on preenactment releases. Mr. McKnight is plain wrong. As explained above, only post-enactment damages resulting from a preenactment release are compensable; pre-enactment damages from such a release are not. The distinction is clearly illustrated in the case of *In re Acushnet River and New Bedford Harbor Proceedings re Alleged PCB Pollution,* 716 F. Supp. 676 (D. Mass. 1989), which I referenced in my testimony, and which is the only case thus far to analyze the issue. In *Acushnet,* the court determined the scope of damages resulting from the discharge of PCB's into the Acushnet River during the 1960's and 1970's. These discharges forced the closing of New Bedford Harbor to fishing in 1978, and it remained closed in 1989. The court concluded that the damages resulting from the loss of this commercial fishery could be computed on a daily basis. It held that damages occurring from 1978 until enactment in 1980 were not recoverable; damages occurring after enactment were recoverable. I have enclosed a copy of the decision to be included in the hearing record.

Thus, the *Acushnet* court gave full effect to the statutory language, and to Congress' original intent. The court did not apply the statute only prospectively, as Mr. McKnight would do; but it did not give the statute full retroactive application either, as Mr. McKnight incorrectly asserted I would do.

Total elimination of liability for damages resulting from preenactment disposal activities would have the effect of virtually repealing the natural resource damage program under CERCLA. In New Mexico, for example, we have some sixty sites at which natural resources have been injured by the release of a hazardous substance, with resulting damages. All but perhaps four or five of those sites involve almost exclusively pre-enactment disposal. We have no state superfund law and no source of funding to conduct restoration of injured natural resources. Thus, if liability for pre-enactment disposal activities were eliminated, the injured resources in New Mexico would remain unrestored.

Similarly, as we explain in more detail in our letter of today to Rep. Elizabeth Furse, all of the large, well-known natural resource damage claims arise almost entirely from pre-1980 disposal activities. The mining activities at the Clark Fork site in Montana and the Coeur d'Alene Basin in Idaho; the discharges of mercury into Lavaca Bay in Texas; the discharges of PCB's into the Hudson River watershed in New York, the Housatonic River watershed in Massachusetts, the St. Lawrence River in New York, and Saginaw Bay in Michigan; and the discharge of PCB's and DDT into Los Angeles and Long Beach Harbors in California, all occurred largely before 1980. If liability for pre-1980 disposal activities were eliminated, the costs of restoring the widespread injured and destroyed natural resources at these sites—which are among the worst in the nation—would be shifted from the responsible polluters to the taxpaying public, if indeed these resources would be restored at all.

Please include this letter as part of the hearing record. Thank you again for the opportunity to testify. We have received and will be commenting on your July 17, 1995 document of Superfund reauthorization "principles." We would be happy to work with your staff in sorting out the issues and drafting legislation. I can be reached at (505) 827-6939.

Sincerely,

TOM UDALL, *Attorney General.*

BY: CHARLES DE SAILLAN, *Assistant Attorney General for Natural Resources.*

cc: Members, House Committee on Commerce

... benefits in the event of ... disability." 29 U.S.C. § 1002(1). Plaintiff's claim, therefore, was covered by ERISA's broad preemption clause. 29 U.S.C. § 1144(a) ("the provisions of this subchapter ... shall supersede any and all State laws insofar as they may now or hereafter relate to any employee benefit plan"). *See Pilot Life Insurance Company v. Dedeaux*, 481 U.S. 41, 107 S.Ct. 1549, 1558, 95 L.Ed.2d 39 (1987) (state law action for improper disability claim processing, and denial of benefits under an insurance policy was preempted by ERISA).

IV.

[4, 5] Because the original complaint was preempted by ERISA, this case was removable when filed in 1984. *See Taylor*, 107 S.Ct. at 1548 (state law claim alleging a failure to pay disability benefits was removable as preempted by ERISA). Once the thirty day window for removing a case has closed, the removal right is only revived by a subsequent pleading that changes the nature of the litigation, such that the case is "substantially a new suit begun that day." *Wilson v. Intercollegiate (Big Ten) Conference*, 668 F.2d 962, 965 (7th Cir.1982). Plaintiff's addition of an ERISA claim to a lawsuit already preempted by ERISA does not change the essential nature of the litigation. Removal, therefore, was untimely. Remand is required.

An order will issue.

ORDER

For the reasons stated in the accompanying memorandum, plaintiff's motion to remand this case to the Middlesex Superior Court of the Commonwealth of Massachusetts is hereby GRANTED.

IT IS SO ORDERED.

In re ACUSHNET RIVER & NEW BEDFORD HARBOR PROCEEDINGS re ALLEGED PCB POLLUTION.

Civ. A. No. 83-3882-Y.

United States District Court, D. Massachusetts.

June 7, 1989.

State and federal governments brought action under Comprehensive Environmental Response, Compensation and Liability Act to recover response costs against facility operator. On operator's motion for partial summary judgment, the District Court, Young, J., held that: (1) governments could not recover for natural resource damages incurred prior to enactment of CERCLA that were readily divisible from postenactment damages, and (2) operator had burden of proving which damages were not recoverable.

Motion allowed in part.

1. Health and Environment ⇐25.7(23)

"Damages" as used in limitation on recovery of natural resource damages under CERCLA refers to monetary quantification stemming from injury, rather than injury itself. Comprehensive Environmental Response, Compensation, and Liability Act of 1980, § 107(f)(1), as amended, 42 U.S.C.A. § 9607(f)(1).

See publication Words and Phrases for other judicial constructions and definitions.

2. Health and Environment ⇐25.7(23)

Natural resource damages generally "occurred," for purposes of limitation on recovery of natural resource damages under CERCLA, when property owner or some entity incurred expenses due to injury to natural resources, rather than when injury occurred. Comprehensive Environmental Response, Compensation, and Liability Act of 1980, § 107(f), as amended, 42 U.S.C.A. § 9607(f).

See publication Words and Phrases for other judicial constructions and definitions.

3. Health and Environment ⇐25.7(23)

There could be no natural resource damages cognizable under CERCLA before harbor was closed unless governments introduce evidence of monetary quantification proximately stemming from PCB injury to environment. Comprehensive Environmental Response, Compensation, and Liability Act of 1980, § 107(f), as amended, 42 U.S.C.A. § 9607(f).

4. Health and Environment ⇐25.7(23)

Governments could not recover for natural resource damages incurred prior to enactment of CERCLA if such damages were readily divisible from postenactment damages; however, if damages were not divisible and damages or releases that caused damages continued postenactment, governments could recover for such nondivisible damages in their entirety. Comprehensive Environmental Response, Compensation, and Liability Act of 1980, § 107(f), as amended, 42 U.S.C.A. § 9607(f).

5. Health and Environment ⇐25.7(23)

Operator had burden of proving that natural resource damages occurred before enactment of CERCLA and thus could not be recovered by governments in action to recover response costs. Comprehensive Environmental Response, Compensation, and Liability Act of 1980, § 107(f), as amended, 42 U.S.C.A. § 9607(f).

Ellen M. Mahan, William D. Brighton, Environmental Enforcement Section Land and Natural Resources Div., Washington, D.C., Martha Sosman, Chief, Civ. Div., Boston, Mass., for the U.S.

Lee Breckenridge, Chief, Nancy Preis, Asst. Attys. Gen., Environmental Protection Div. Dept. of the Atty. Gen., Boston, Mass., for the Com. of Mass.

Charles C. Bering, Office of Regional Counsel, U.S. EPA-Region I, Boston, Mass., Alice Crowe, OECM-Waste, LE 134S U.S. EPA Headquarters, Washington, D.C., for the U.S. E.P.A.

Hugh Schratwieser, Office of Gen. Counsel, Washington, D.C., for the Nat. Oceanic and Atmospheric Admin.

Daniel J. Gleason, Mary K. Ryan, Brian T. Kenner, Nutter, McClennan & Fish, Boston, Mass., for AVX Corp.

Paul B. Galvani, Roscoe Trimmier, Jr., Ropes & Gray, Boston, Mass., for Aerovox, Inc.

David A. McLaughlin, Michael J. McGlone, McLaughlin & Folan, New Bedford, Mass., for Belleville Industries, Inc.

Verne Vance, Jr., Richard W. Benka, Foley, Hoag & Eliot, Boston, Mass., for Cornell Dubilier Electronics Co., Inc.

John R. Quarles, Howard T. Weir, Morgan, Lewis & Bockius, Washington, D.C., for Federal Pacific Elec. Co.

Robert J. Muldoon, Jr., Daniel B. Winslow, Barbara O'Donnell, Sherin & Lodgen, Boston, Mass., for Aerovox, Inc. (Ins. Litigation).

William M. Savino, Gary D. Centola, Rivkin, Radler, Dunne & Bayh, Uniondale, N.Y., Cynthia J. Cohen, Michael B. Bogdanow, Meehan, Boyle & Cohen, Boston, Mass., for Firemen's Fund Ins. Co.

James L. Ackerman, Day, Berry, Howard, Boston, Mass., Thomas J. Groark, Jr., Day, Berry & Howard, Hartford, Conn., for Aetna Cas. and Sur. Co.

John P. Ryan, Sloan & Walsh, Boston, Mass., for Hartford Ins. Co.

Michael S. Greco, Lisa D. Campolo, Hill & Barlow, Boston, Mass., Timothy C. Russell, T. Andrew Culbert, Drinker, Biddle & Reath, Washington, D.C., for Lumbermen's Mut. Cas. Co. and American Motorists Ins.

Stephen J. Paris, Michael F. Aylward, Morrison, Mahoney & Miller, Boston, Mass., for CNA Ins. Co. and Reliance Ins. Co.

Roger E. Warin, Stephen A. Fennell, Anita G. Raby, Steptoe & Johnson, Washington, D.C., for Highlands Ins. Co.

Wm. Gerald McElroy, Jr., John T. Harding, Jr., Zelle & Larson, Waltham, Mass., for Employers Ins. of Wausau.

James P. Whitters, III, Gaston & Snow, Boston, Mass., for Liberty Mut. Ins. Co.

Bert J. Capone, Deborah S. Griffin, Peabody & Arnold, Boston, Mass., for Home Ins. Co. and Lexington Ins. Group.

Robert F. Corliss, Robert A. Romero, Jr., Corliss & Romero, Boston, Mass., Mary Ann D'Amato, Paul Moran, Mendes & Mount, New York City, for Underwriters at Lloyd's.

Pamela C. Slater, Allan E. Taylor, Taylor, Anderson & Travers, Boston, Mass., for First State Ins. Co.

Timothy P. Wickstrom, Tashjian, Simsarian & Wickstrom, Worcester, Mass., for Mission Ins. Co.

Calum B. Anderson, Parker, Coulter, Daley & White, Boston, Mass., for Northbrook Excess & Surplus Ins. Co.

Carl K. King, Gayle M. Merling, Goldstein & Manello, Boston, Mass., for EPEC, Inc.

Erik D. Olson, Counsel, Nat. Wildlife Federation, Washington, D.C., for Nat. Wildlife Federation.

MEMORANDUM CONCERNING NATURAL RESOURCE DAMAGES UNDER CERCLA [1]

YOUNG, District Judge.

Subsection 107(a) of the Comprehensive Environmental Response, Compensation and Liability Act of 1980 ("CERCLA") provides, in part, that owners and operators of facilities from which there are releases or threatened releases which cause the incurrence of response costs, shall be liable for:

> (4)(A) all costs of removal or remedial action incurred by the United States Government or a State ...; and
>
> (C) damages for injury to, destruction of, or loss of natural resources, including the reasonable costs of assessing such injury, destruction, or loss resulting from such a release....

42 U.S.C. sec. 9607(a)(1), (4)(A), (C).

With respect to natural resource damages, as opposed to response costs, subsection 107(f)(1) of CERCLA, in pertinent part, limits the amount of recoverable damages as follows:

> There shall be no recovery under the authority of subparagraph (C) of subsection (a) of this section where such damages and the release of a hazardous substance from which such damages resulted have occurred wholly before December 11, 1980.

42 U.S.C. sec. 9607(f)(1).

I.

The defendant Aerovox, Inc. ("Aerovox") has moved for partial summary judgment concerning the scope of the damages recoverable under subsection 107(f) of CERCLA.[2] More specifically, Aerovox contends that subsection 107(f) of CERCLA limits the scope of recovery for natural resource damages to the increment of damages that occurred on or after the enactment of CERCLA on December 11, 1980. The plaintiffs, the United States and the Commonwealth of Massachusetts (the "sovereigns"), oppose this motion and argue that they are entitled to recover for all pre- and

1. This memorandum continues the discussion of the pre-trial issues raised in these partially consolidated cases. It is intended to be read with the Court's earlier decisions concerning jurisdiction and parties, *Acushnet River and New Bedford Harbor Proceedings re Alleged PCB Pollution*, 675 F.Supp. 22 (D.Mass.1987) ("*Acushnet I*"), the right to jury trial, *Acushnet River & New Bedford Harbor: Proceedings re Alleged PCB Pollution*, 712 F.Supp. 994 (D.Mass.1989) ("*Acushnet II*"), successor liability, *Acushnet River & New Bedford Harbor: Proceedings re Alleged PCB Pollution*, 712 F.Supp. 1010 (1989) ("*Acushnet III*"), and partial settlements, *Acushnet River & New Bedford Harbor: Proceedings re Alleged PCB Pollution*, 712 F.Supp. 1019 (1989) ("*Acushnet IV*").

2. This Court notes that the Department of Interior has promulgated regulations regarding the valuation of natural resource damages. *See* Cross, *Natural Resource Damage Valuation*, 42 Vand.L.Rev. 269, 321 (1989); Anderson, *Natural Resource Damages, Superfund, and the Courts*, 16 B.C.Envt'l Aff.L.Rev. 405, 441 (1989). However, such regulations have not been relied upon by the Court as they are currently being challenged in the federal circuit for the District of Columbia. *See National Wildlife Fed'n, Envt'l Defense Fund v. United States Dept. of the Interior*, No. 87-1266 (D.C.Cir. filed June 18, 1987) (and consolidated cases).

post-enactment natural resource damages as long as they can show that such damages or the releases from which such damages resulted continued after enactment.

This Court must decide two issues: first, what is the appropriate scope of recovery for natural resource damages and, second, which party has the burden of proving whether natural resource damages occurred before or after enactment within the meaning of the subsection 107(f) limitation. While the Court has spoken to these matters from the bench, the issues raised warrant a written opinion.

II.

The plain language of subsection 107(f) indicates, and the parties do not dispute, that pre-enactment natural resource damages caused by pre-enactment releases of hazardous substances are not recoverable where the releases and the damages do not continue to occur post-enactment. It is also not disputed that at least the incremental post-enactment natural resource damages caused by either pre- or post-enactment releases are recoverable. The dispute in this case arises with respect to the scope of recovery when pre-enactment releases cause injury which results in both pre- and post-enactment damages or when releases continue post-enactment and thus do not occur "wholly" before December 11, 1980. It is the sovereigns' position, when releases or damages continue to occur post-enactment, that recovery for natural resource damages which occur both pre- and post-enactment is appropriate.[3]

The sovereigns argue that subsection 107(f) only applies to situations involving so-called "stable sites." In other words, if they can show that releases or damages continued to occur after December 11, 1980, the sovereigns claim that they are entitled to the totality of damages to the New Bedford Harbor (the "Harbor"). More specifically, the sovereigns argue that the statute prohibits the recovery of natural resource damages only in the limited circumstances where releases and damages have occurred wholly before the date of enactment, December 11, 1980. Because they allege that both releases and damages continue to occur, they claim that Aerovox is liable for all the natural resource damages to the Harbor and its surrounding waters regardless of when they occurred. Aerovox argues that the sovereigns can recover only for the increment in natural resource damages that occurs after the enactment date. Because of the uncertain nature of the statutory language, the legis-

3. While there is a presumption against the retroactive application of statutes, *United States v. Security Industrial Bank*, 459 U.S. 70, 79–80, 103 S.Ct. 407, 413, 74 L.Ed.2d 235 (1982), Congress manifestly intended CERCLA to apply retroactively in order to clean up wastes generated prior to enactment, the statutory scheme being overwhelmingly retrospective and remedial. *See, e.g., United States v. Northeastern Pharmaceutical & Chem. Co.*, 810 F.2d 726, 732–33 (8th Cir.1986), *cert. denied*, 484 U.S. 848, 108 S.Ct. 146, 98 L.Ed.2d 102 (1987). Indeed, it must be so. As one court has put it:

> [CERCLA] is by its very nature backward looking. Many of the human acts that have caused the pollution already had taken place before its enactment; physical and chemical processes are at their pernicious work, carrying destructive forces into the future.

United States v. Shell Oil Co., 605 F.Supp. 1064, 1072 (D.Colo.1985). Courts, as well, have consistently applied subsection 107(a)(4)(A) retroactively, ruling that plaintiffs can recover for response costs to clean up pre-enactment damages and that the imposition of such liability does not offend due process. *Northeastern Pharmaceutical*, 810 F.2d at 734–37; *United States v. Hooker Chem. & Plastics Corp.*, 680 F.Supp. 546, 556–57 (W.D.N.Y.1988); *United States v. Ottati & Goss, Inc.*, 630 F.Supp. 1361, 1398–99 (D.N.H.1985); *Town of Boonton v. Drew Chem. Corp.*, 621 F.Supp. 663, 668–69 (D.N.J.1985); *United States v. Conservation Chem. Co.*, 619 F.Supp. 162, 218–19 (W.D.Mo. 1985); *United States v. Ward*, 618 F.Supp. 884, 898–99 (E.D.N.C.1985); *Shell Oil*, 605 F.Supp. at 1076–77; *Ohio ex rel. Brown v. Georgeoff*, 562 F.Supp. 1300, 1302–14 (N.D.Ohio 1983); *see generally Developments in the Law—Toxic Waste Litigation*, 99 Harv.L.Rev. 1458, 1535–62 (1986).

These cases, of course, do not control the present case because, as subsection 107(f) makes explicit, CERCLA treats recovery for natural resource damages under subsection 107(a)(4)(C) differently from recovery of response costs under subsection 107(a)(4)(A). *Northeastern Pharmaceutical*, 810 F.2d at 736; *Town of Boonton*, 621 F.Supp. at 669; *Shell Oil*, 605 F.Supp. at 1076. Thus, this Court must interpret subsection 107(f) to determine to what extent it limits the sovereigns' ability to recover for natural resource damages in this case.

lative history,[4] and, not surprisingly, the case law[5] surrounding this provision, the

4. The legislative history pertaining to subsection 107(f) is extremely limited and inconclusive. Indeed, that history actually pertains to subsection 4(n)(1) of Senate Bill 1480, a precursor to subsection 107(f). The sovereigns cite the following passage:

> Section 4(n) specifies how claims to certain damages occuring before the date of enactment will be handled under sec. 1480. Costs of removal (cleanup and containment) are not affected by this provision, *nor are any damages associated with continuing releases.*

S.Rep. No. 848, 96th Cong., 2d Sess. 37, *reprinted in* A Legislative History of the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (Superfund), Public Law 96-510 at 344 (emphasis added).

Despite the sovereigns' contrary assertion, this Court rules that this language, standing alone, is ambiguous. Are the "damages associated with continuing releases" all pre- and post-enactment damages as the sovereigns assert, or merely all post-enactment damages associated with continuing (i.e., post-enactment) releases? Language a paragraph later further muddies these delta waters: "[Section 4(n)] allows for ... recovery only of prospective natural resource and property damages." S.Rep. No. 848, 96th Cong., 2d Sess. 37, *reprinted in* A Legislative History of the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (Superfund), Public Law 96-510 at 344. Aerovox argues, with some force, that such language means that no injury to natural resources occurring pre-enactment is compensable. However, this language may simply state the general rule to which the foregoing language provides an exception.

5. Case law pertaining to subsection 107(f)(1), although containing some language supportive of what may be termed the sovereigns' "stable sites" position, is likewise ambiguous and ultimately inconclusive. A stable site is one that will not deteriorate further. The stable site analysis stems from an apparent misinterpretation of an admittedly ambiguous passage in *Shell Oil*, 605 F.Supp. at 1076. That court, in holding that Congress intended retroactive application of subsections 107(a)(4)(A) and (B), premised its decision on the fact that Congress had only "affirmatively limit[ed] retroactive application of the third category of liability, damages to natural resources, section 107(a)(4)(C)." *Id.*; *see also Northeastern Pharmaceutical*, 810 F.2d at 736 (quoting *Shell Oil*). The court explained this exclusion of stable sites from natural resource damages claims under subsection 107(e)(1) as well as from Superfund claims under subsection 111(d)(1) thus:

> The sites excluded under 107(f) and 111(d) are stable sites, that is, the environment, though damaged, will not deteriorate further.... Congress apparently decided to utilize the limited resources of [Superfund] ... to clean up thousands of sites ... which are not stable.

Shell Oil, 605 F.Supp. at 1076; *Northeastern Pharmaceutical*, 810 F.2d at 736 (quoting *Shell Oil*). This reasoning makes perfect sense as far as it goes, but it only goes so far as to explain why subsection 111(d)(1) limits retroactivity with respect to Superfund, not why subsection 107(f)(1) limits retroactivity with respect to natural resource damages; an unstable site clearly needs to be cleaned up to protect the environment from further damage but failure to recover money to restore natural resources does not affect a site's stability. Because of the limited applicability of this reasoning as well as the fact that such reasoning is purely dictum in both cases, this Court finds these cases unpersuasive on the issue before it. It should also be noted that the *Shell Oil* court's ruminations about the meaning of 107(f) contain the following passage which, while not free from ambiguity, seems to undercut the sovereigns' position: "[W]here Congress has intended a liability provision to have only *prospective* operation, as in the case of natural resource damages, Congress has so stated explicitly." 605 F.Supp. at 1079 (emphasis added).

More on point is *Idaho v. Bunker Hill Co.*, 635 F.Supp. 665 (D.Idaho 1986) (*Bunker Hill I*). The state in *Bunker Hill I*, in seeking to recover for natural resource damages which had occurred from the operation of the defendant's facility over the past century, had argued that "continuing damage" is outside the bar of subsection 107(f) because the "damage" had therefore not occurred wholly before CERCLA's date of enactment. *Id.* at 674.

> In other words, the State claims that if the natural resources in the area have been damaged, at any time during which the defendants have operated in the area over the past century, and that the natural resources remain in that damaged state unabated, then the Section 107(f) bar is not applicable since the damage has not occurred wholly before enactment of the statute.

Id. By the term "damage," the state and the *Bunker Hill I* court may have meant "injury" as opposed to "damages" as that term is defined in the statute. 42 U.S.C. sec. 9601(6). Indeed, in a related opinion explicating another portion of the *Bunker Hill I* case, *Aetna Casualty & Surety Co. v. Gulf Resources & Chem. Corp.*, 709 F.Supp. 958, 962 (D.Idaho 1989), the same court again seemed to indicate that "damage," in its lexicon, means injury, although the matter is not free from doubt: "This court has already held that the [relevant insurance policies] only provide coverage when the *property damage* for which *damages* are sought and the cause of that *damage* both occurred during the policy period." *Id.* (citing *Idaho v. Bunker Hill*, 647 F.Supp. 1064, 1070-71) (D.Idaho 1986) (*Bunker Hill II*) (emphasis added). At any rate, in *Bunker Hill I*, the state and the court seem to have

Court must itself define and conceptualize the statutory terms with little guidance from any source.[6]

[1] The first analytic step is defining the key terms in the disputed statute. It is argued to this Court that the term "damages" as used in subsection 107(f) refers to the injury to natural resources, not to the monetary quantification of that injury. The Court rejects that interpretation. First, the statute itself, although "not a paradigm of clarity or precision," *Artesian Water Co. v. New Castle County*, 851 F.2d 643, 648 (3d Cir.1988), *see also supra* note 6, does define the term "damages" as follows: "The term 'damages' means damages for injury or loss of natural resources...." Although circular, the above passage, fairly read, appears to define damages as monetary quantification stemming from an injury. This Court adopts that definition.

It is asserted that the drafters of CERCLA were sloppy with respect to the terms "damages" and "injury" and frequently used one when they meant the other. Indeed, subsection 111(d)(1), the companion provision to subsection 107(f), lends some support to this view. That subparagraph provides as follows:

> No money in the Fund may be used under subsection (c)(1) and (2) of this section, nor for the payment of any claim under subsection (b) of this section, where *the injury, destruction, or loss of*

used "damage," however they defined it, as an equivalent of the term "damages" (i.e. the monetary quantification of the injury) in subsection 107(f).

The *Bunker Hill I* court rejected the state's argument because, regardless of whether the "damage" remains unabated post-enactment, if it occurred pre-enactment, the state could not recover. Unfortunately, that court did not reach the crucial question in this case: "When do damages occur?" For a further discussion of *Bunker Hill I, see infra* note 9.

A third case considering the meaning of subsection 107(f) is *United States v. Reilly Tar & Chem. Corp.*, 546 F.Supp. 1100 (D.Minn.1982). There, the court held that the defendants could escape liability for natural resource damages "only where (1) all releases ended before December 11, 1980, and (2) no damages were suffered on or after December 11, 1980 as a result of the release." *Id.* at 1120. While the sovereigns make much of the first clause of the quoted language, arguing that it means that any post-enactment release makes all natural resource damages recoverable, this Court holds that in context the language is somewhat ambiguous. Indeed, this passage more likely means that, when one or neither of the enumerated conditions are present, a defendant is partially, not fully, liable for natural resource damages. In other words, the opinion more likely means that each occurrence of damages must be analyzed to determine whether it and its precipitating release both occurred prior to enactment. In that circumstance, but not otherwise, recovery is barred. The *Reilly Tar* court itself did not reach this issue. Rather, it denied the defendant's motion to dismiss because the complaint alleged continuing releases and damages from those releases, and determined that "[t]he extent to which [the defendant] will be entitled to escape liability under section 107(f) is a fact question to be resolved in future proceedings." *Id.* As in *Bunker Hill I*, *Reilly Tar* does not define when damages occur.

A final case addressing the scope of 107(f), *United States v. Wade*, 20 E.R.C. 1657 (E.D.Pa. 1984), also rejected a defendant's motion to dismiss a count asserting natural resource damages because releases might still have been occurring in 1984. *Id.* at 1659. The decision is not helpful here because the court may well have meant only that it would not dismiss the count because post-enactment releases might have caused post-enactment damages, not that post-enactment releases made the defendant liable for both pre- and post-enactment damages.

6. Like many a court before it, this Court cannot forbear remarking on the difficulty of being left compassless on the trackless wastes of CERCLA. This Court has previously noted the statute's incomprehensible nature. *Acushnet River and New Bedford Harbor Proceedings re Alleged PCB Pollution*, 675 F.Supp. 22, 25 n. 2 (D.Mass.1987) (and cases cited). Other courts have concurred. *E.g., Artesian Water Co. v. New Castle County*, 851 F.2d 643, 648 (3d Cir.1988); *Dedham Water Co. v. Cumberland Farms Dairy, Inc.*, 805 F.2d 1074, 1080 (1st Cir.1986). It astounds this Court that a statute as important as CERCLA is to the protection of our environment and the public health remains as inscrutable as ever—as the following passages of this opinion that attempt to decipher it reveal—notwithstanding the major legislative overhaul of the statute via the SARA amendments in 1986. While some of the apparent inconsistencies may be the result of the horse-trading that is perhaps inevitable in the passage of such a controversial bill, much of it appears to be due merely to poor drafting. A further round of amendments designed simply to clean up the discrepancies revealed in the following passages would go far to saving litigants' money and courts' time as well as the statute itself from interpretations contrary to the intent of Congress.

natural resources and the release of a hazardous substance from which *such damages* resulted have occurred wholly before December 11, 1980.

42 U.S.C. sec. 9611(d)(1) (emphasis added). In that provision, "such damages" appears to refer to "the injury, destruction, or loss of natural resources...."

However, read in the context of the entire subparagraph of which it is a part, the term "damages," as employed in the last sentence of 107(f)(1), does not seem misused.[7] The phrase "such damages" as used twice in that sentence both times appears to refer, not to injury to natural resources, but to the term "damages" in subsection 107(a)(4)(C). There, "damages" is self-evidently distinct from "injury"; "[Liability will be imposed for] *damages* for injury to, destruction of, or loss of natural resources...." 42 U.S.C. sec. 9607(a)(4)(C) (emphasis added).[8]

7. The relevant wording of subsection 107(f)(1) is as follows:

> In the case of an injury to, destruction of, or loss of natural resources under subparagraph (C) of subsection (a) of this section liability shall be to the United States Government and to any State for natural resources within the State or belonging to, managed by, controlled by, or appertaining to such State ...: *Provided, however,* That no liability to the United States or State ... shall be imposed under subparagraph (C) of subsection (a) of this section, where the party sought to be charged has demonstrated that the damages to natural resources complained of were specifically identified as an irreversible and irretrievable commitment of natural resources in an environmental impact statement, or other comparable environment analysis, and the decision to grant a permit or license authorizes such commitment of natural resources, and the facility or project was otherwise operating within the terms of its permit or license.... The President, or the authorized representative of any State, shall act on behalf of the public as trustee of such natural resources to recover for such damages. Sums recovered by the United States Government as trustee under this subsection shall be retained by the trustee, without further appropriation, for use only to restore, replace, or acquire the equivalent of such natural resources. Sums recovered by a State as trustee under this subsection shall be available for use only to restore, replace, or acquire the equivalent of such natural resources by the State. The measure of damages in any action under subparagraph (C) of subsection (a) of this section shall not be limited by the sums which can be used to restore or replace such resources. There shall be no double recovery under this chapter for natural resource damages, including the costs of damage assessment or restoration, rehabilitation, or acquisition for the same release and natural resource. There shall be no recovery under the authority of subparagraph (C) of subsection (a) of this section where such damages and the release of a hazardous substance from which such damages resulted have occurred wholly before December 11, 1980.

42 U.S.C. sec. 9607(f)(1) (emphasis in original).

8. A final argument in favor of the Court's interpretation concerns subsection 112(d) which, prior to the SARA amendments, provided:

> No claim may be presented, nor may an action be commenced for damages under this subchapter, unless that claim is presented or action commenced *within three years from the date of the discovery of the loss or December 11, 1980, whichever is later*....

42 U.S.C.A. sec. 9612(d) (West 1983) (superceded) (emphasis added).

"Damages" in this now outdated version of subsection 112(d) refers to natural resource damages by definition. 42 U.S.C. sec. 9601(6). This being the case, the language in this provision, "within three years from ... December 11, 1980," would effectively be vitiated by a reading of the term "damages" in 9607(f) to mean "injury." This is so because such a reading means that any injury that occurred wholly before enactment would necessarily not be compensable. Thus, under no circumstances would a CERCLA plaintiff have a claim for natural resource damages that must be presented prior to December 11, 1980. Therefore, the statute, with respect to natural resource damages, would in effect be rewritten to state that the action must be commenced within three years from the date of the discovery of the loss, it being apparent from the rest of the statute that underlying the claim must be an injury that occurred after December 11, 1980. The Court is reluctant so to interpret one provision of CERCLA as to eviscerate a portion of another. For a further discussion of subsection 112(d) and the manner in which the Court's interpretation of subsection 107(f) interacts with subsection 112(d), *see infra* note 16.

The fact that this statute was rewritten as part of the SARA amendments in 1986 and that the amendments eliminate language pertaining to the dates of enactment does not indicate that Congress realized that the language referring to December 11, 1980 was surplusage. Rather, the new version of subsection 112(d) permits damages claims presented within three years of the later of "[t]he date of the discovery of the loss and its connection with the release in question [and] [t]he date on which the final regulations are promulgated under [42 U.S.C. sec. 9651(c)]." Thus, it merely broadens significantly the time in which the sovereigns have to present a claim for natural resource damages.

[2] The second term to be defined is "occurred." Aerovox contends that damages occur, in effect, when injury occurs. Thus, although no monetary impact due to PCB contamination of the mud at the bottom of the Harbor may have been felt until after enactment by a property owner, for example, when that owner incurred additional expenses during the building of a wharf due to the expense of disposing of contaminated dredge spoils, the "damages" had "wholly occurred" prior to enactment because the mud had become contaminated —i.e., the injury to natural resources had occurred—prior to enactment. The Court rejects this view and holds that "damages" —i.e., monetary quantification of the injury done to the natural resources—"occur" as a general rule when the property owner in this example, or some entity as a general rule, incurs expenses due to the injury to natural resources—i.e., when the owner seeks to develop the waterfront property.[9]

9. In a related motion seeking partial summary judgment concerning the claims of Belleville Industries, Inc. ("Belleville") for indemnification for its liability under 42 U.S.C. sec. 9607(a)(4)(C), Belleville's insurer, Lumbermens [sic] Mutual Casualty Co. ("Lumbermens") urges this Court to define "damages" as a compensatory award of money for redress of an injury. As to when such damages occur, Lumbermens urges the Court to fashion a federal common law rule to ensure uniformity nationwide in CERCLA actions, rather than relying on state law. This Court agrees with both propositions, at least in the CERCLA context. *See United States v. Wade*, 577 F.Supp. 1326, 1338 (E.D.Pa. 1983) (holding that "[f]ederal courts may create federal common law when 'necessary to protect uniquely federal interests' " in the context of determining that joint and several liability should apply, in general, to a CERCLA action) (quoting *Texas Indus. v. Radcliff Materials*, 451 U.S. 630, 640, 101 S.Ct. 2061 [2067, 68 L.Ed.2d 500 1981]); *cf. Teague v. Nat'l R.R. Passenger Corp.*, 708 F.Supp. 1344, 1348 n. 5 (D.Mass.1989) (noting the need for federal common law in the Federal Employers' Liability Act context). Lumbermens then argues that the Court should hold that damages occur when they accrue at common law—i.e., at the time of the injury itself.

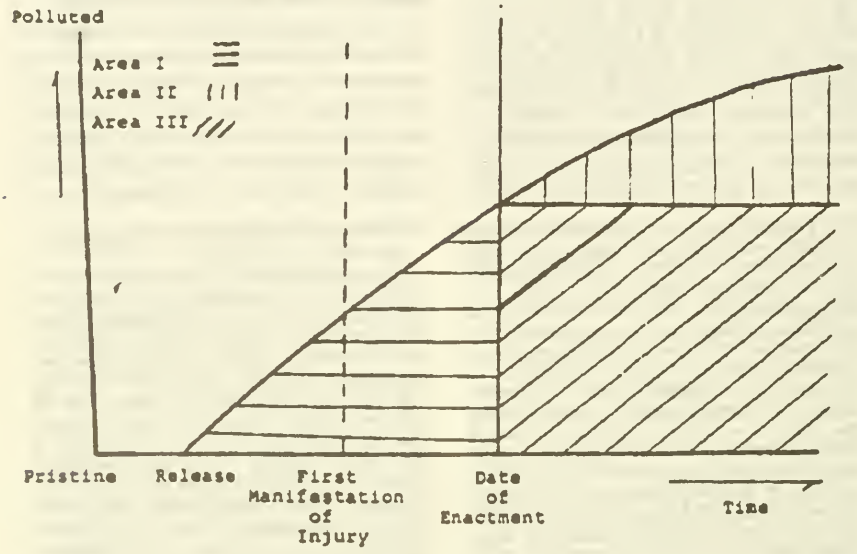
The Court declines to so hold, at least in the CERCLA context. (What the term "occurrence" may mean in the context of the contractual understanding between an alleged polluter and its insurer may be something else altogether—a point on which this Court presently expresses no opinion.) From a drafting stand-point, it makes no sense to have drafted this statutory passage as it stands if "occur" is read to mean "accrue" in the sense that Lumbermens uses the term "accrue." Were that the intent of Congress, it could simply have approved language that provided, "There shall be no recovery ... where an injury to natural resources has occurred wholly before December 11, 1980," given that damages, Lumbermens urges, accrue contemporaneously with the injury. While the imprecise language of the statute does not absolutely forbid such a reading, the Court rejects Lumbermens' interpretation for the further reason that such an interpretation of the statute runs counter to the broad remedial purpose of the statute and Congress' intent to hold polluters responsible for their acts.

The case of *Idaho v. Bunker Hill Co.*, 635 F.Supp. 665 (D.Idaho 1986) (*Bunker Hill I*) does not sway this Court. As Lumbermens forthrightly notes, the court's decision, although it can be read as supporting Lumbermens' position, is less than clear. *Bunker Hill I* held that "to the extent that both the release and the resultant damage occurred prior to enactment, Section 107(f) bars recovery." *Id.* at 675. If one reads "damage" in the above passage to signify injury and not damages, *Bunker Hill I* appears to support Lumbermens' position. This Court is unpersuaded by *Bunker Hill I* because of the uncertainty as to what that court actually held and because nowhere are the terms "damage," "damages," and "occurred" discussed in any detail or defined.

As a consequence of the Court's ruling today, Lumbermens' motion for partial summary judgment is denied. Lumbermens' policy with Belleville requires Lumbermens to pay on behalf of Belleville all sums which Belleville shall become legally obligated to pay as damages because of physical injury to, destruction of, or loss of use of tangible property which occurred during the policy period, 1973–76. *See* Lumbermens' Memorandum of Law in Support of Its Motion for Partial Summary Judgment Concerning Indemnification for Claims Brought Under 42 U.S.C. sec. 9607(a)(4)(C) (Docket # 1253) at 17. Lumbermens argues that, because in their view damages accrue and therefore occur contemporaneously with the injury, any damages for which Lumbermens might have an obligation to pay under the policy would have occurred no later than 1976 and thus be unquestionably pre-enactment damages and thus not recoverable.

Because this Court rejects the premise that damages occur when they accrue at common law, Lumbermens' argument fails. Lumbermens does not dispute that there is at least a genuine issue of material fact whether releases from the Belleville facility caused such injury or destruction or loss of use during the policy period. This Court holds that a genuine issue exists whether such releases and the injury they caused have at least partially caused the damages that occurred post-enactment. The Court

The second step is conceptualization of the grounds of dispute. The different theories of recovery discussed herein, albeit somewhat simplified,[10] may be illustrated by the following graph:



The portions of the graph designated in the aggregate as Areas I, II, and III represent the sovereigns' theory of recovery. The portion designated Area II represents Aerovox's theory. As will be demonstrated below, Areas II and III represent the theory of recovery that comports most exactly with the dictates of the statute.[11]

presently expresses no opinion concerning whether such releases are "sudden and accidental" within the meaning of the insurance contract between Lumbermens and Belleville. That remains to be determined.

10. Conceptually, the graph depicts any PCB presence in the environment as "polluted," not "pristine," and depicts "damage" as injury to the environment commencing at the moment of release, *i.e.*, the moment at which a molecule of allegedly toxic PCB moved beyond the confines of the facility and into the larger environment in a spatial or geographical sense. This is not, however, to say that the sovereigns could recover any "damages" for the migration or "release" of a single PCB molecule even if it occurred post-enactment, nor does it mean that release necessarily equals injury. *See* this Court's definition of "damages" *supra* at 681. Likewise, to best depict the various contentions, the graph assumes that each PCB release injures the environment to an ever increasing degree. In actual practice, this matter will ultimately be determined by a jury, *see Acushnet II*, *supra* note 1, and this Court expresses no opinion thereon. Finally, as noted, *see supra* note 9, the Court cautions that the meaning of the terms used in this graph do not necessarily correspond to the meaning conferred on them by an alleged polluter and its insurer in the context of the insurance contract between them.

11. The nuance of the parties' theory is best set forth by way of example. The sovereigns may attempt to recover for the additional expense incurred by New Bedford lobsterers since the time they were forced, by PCB pollution, to lobster outside the harbor. Assuming, for example, that a lobster boat incurred additional costs of $50.00 per day prior to enactment to lobster outside the harbor, and that that additional cost jumped to $60.00 per day on enactment day, the parties' theories would dictate the following recoveries for natural resource damages. The sovereigns would award damages of $50.00 per day until enactment, jumping to $60.00 per day from enactment on. Aerovox would award only $10.00 per day (the incremental difference between $50.00 per day before enactment and $60.00 per day thereafter) and only from enactment day on. The Court, as will be explained, holds that no recovery is proper before enactment day, but that from enactment day forward the proper recovery is $60.00 per day.

Armed with the definitions and graph, the Court can now attempt to construe the statute and apply it to the facts of this case, to the extent such facts are known.

[3] As a threshold matter, even if the sovereigns prevail upon the liability issues, it is unclear to what extent they will be able to recover natural resource damages that occurred prior to the governmental closing of the Harbor in 1978. In an unrelated motion, the sovereigns moved to exclude evidence of the effects of PCBs on fish and aquatic life. In support of that motion, they have represented to the Court that they do not intend to show that the health or reproduction of fish and aquatic life in the Harbor has been affected by the PCBs. It is their position that injury occurs when the fish and aquatic life is contaminated with PCBs above the 2.0 parts per million tolerance level set by the United States Food and Drug Administration (the "FDA"). It is at that stage that, according to regulation, 21 C.F.R. sec. 109.30(a)(7), marine life is unfit for human consumption and the Harbor has to be closed for fishing. In other words, as long as the level of PCB contamination exceeds the FDA tolerance level, individuals cannot eat the fish and other seafood regardless of whether the organisms themselves are actually harmed or harmful. Accordingly, the sovereigns argued that evidence of actual harm to marine life is irrelevant.[12] The Court allowed the sovereigns' motion provided that the sovereigns themselves do not attempt to prove damages beyond those associated with closing the Harbor due to contamination in excess of the FDA tolerance level.

This Court rules that there cannot be any damages cognizable under CERCLA before the Harbor was closed unless the sovereigns introduce evidence of the monetary quantification which proximately stems from PCB injury to the environment. Evidence of such harm may well exist. For example,[13] the Court notes that lobsterers voluntarily ceased lobstering in an area of the Harbor as early as 1977. Thus, any added expense they incurred in sailing outside their usual lobstering grounds constitutes actual harm that occurred prior to (as well as after) the closure of the Harbor to lobstering and fishing by the Massachusetts Department of Public Health on September 25, 1979. Clearly, once the Harbor was governmentally closed, putative pre-enactment damages existed at least in the form of these higher costs from that date until enactment.

[4] More generally, the Court holds that, where natural resource damages are readily divisible, the sovereigns cannot recover for such damages incurred prior to enactment. This rule flows logically from the above definitions and is best explicated by further consideration of the lobsterers' example. Since 1977, the sovereigns allege that, due to the Harbor's PCB contamination, New Bedford lobsterers have been forced out of their old lobstering grounds and have had to sail farther out from port

12. The sovereigns also moved to exclude evidence challenging the validity of the FDA regulation and opposed Aerovox's motion *in limine* to exclude evidence of the FDA tolerance level. The Court rules that evidence challenging the validity of the FDA regulation will be excluded and evidence of the tolerance level as established by the FDA will be admitted on a proper foundation. Evidence regarding validity is excluded because, as a practical matter, the regulation prevents the commercial exploitation of fish and seafood that exceeds the tolerance level regardless of whether the regulation is appropriate. If Aerovox disputed the regulation itself, its remedy was to take part in the FDA rule-making procedures, not to launch an attack against the regulation in these proceedings. *Cf. Acushnet IV, supra* note 1, at 1032 (observing that the remedy of defendants who found that the SARA amendments left them facing greater liability than their pro rata shares lay with Congress, not the court) (quoting *City of New York v. Exxon Corp.*, 697 F.Supp. 677, 694 [S.D.N.Y. 1988]).

13. In view of what follows in this opinion—i.e., limiting recovery for the lobsterers' economic damages to the post-enactment period—this example must be considered pure dicta. The parties have suggested no example of PCB harm which could not readily be divided into pre- and post-enactment portions. Because full recovery for indivisible harm is at least theoretically possible, however, it seems to the Court important to point out that, even if such indivisible harm exists (a point on which this Court expresses no opinion), prior to the closing of the Harbor such recovery is limited to proof of monetary quantification of PCB injury to the environment.

along the coast in order to ply their trade. The lobsterers thus have incurred damages, one imagines, in the form of greater fuel expense, labor costs, engine maintenance, and so on due to the longer trips to their pots.[14] Such economic harm is readily divisible because such added expenses can be calculated on a daily basis. As a result, "such damages [figured through December 10, 1980] and the release of a hazardous substance from which such damages resulted [did occur] wholly before" the enactment date. Additional damages—the added expenses from enactment date forward—are damages that have not occurred wholly before the enactment date and are recoverable. Similarly, the added costs of disposing of Harbor dredge spoils, if incurred prior to enactment, are not recoverable, whereas such added costs incurred after enactment are recoverable.

In cases where the natural resource damages are not divisible and the damages or the releases that caused the damages continue post-enactment, the sovereigns can recover for such non-divisible damages in their entirety. For example, aesthetic injury[15] to the Harbor may prove to be a compensable portion of natural resource damages. *E.g., Artesian Water Co. v. New Castle County*, 659 F.Supp. 1269, 1288 n. 34 (D.Del.1987) (holding that natural resource damages may be measured, *inter alia*, as the decrease in economic and aesthetic value of the resource), *aff'd on other grounds*, 851 F.2d 643 (3d Cir.1988); *Bunker Hill*, 635 F.Supp. at 675–76 (D.Idaho 1986). It may well be that at no point in time will the sovereigns or any individual ever pay out any money to repair certain types of aesthetic injury or such injury may be impossible to repair. Yet such injury clearly results from both the pre- and post-enactment releases in an indivisible fashion and continues after enactment indivisibly as a result of the injury that was present prior to enactment. While the problems of proving such matters are not insignificant, it may well be that monetary damages should be awarded for such injury.[16]

As a final note, certain damages may be latent. That is, such damages may not yet have occurred, in the sense that no party has incurred expense because of them, at the time a damages award, if any there be, is made in this case. For example, if the sovereigns prove that the value of property adjacent to the Harbor declined due to PCB contamination of the Harbor, then the actual impact of the damage occurs at the time various parcels of land are sold and the loss is incurred. Thus, recovery is not permitted for the loss on property sold prior to enactment, but is permitted on property sold after enactment, and also on property which still has not changed hands since the contamination of the Harbor because the latent damages those properties have incurred will occur at some as yet unde-

14. The sovereigns may recover for this type of damage under the "lost use" approach to natural resource damages. *See Acushnet II*, *supra* note 1, at 999, 1000.

15. The Court uses the term "aesthetic injury" to describe pollution that mars the physical appearance of a natural resource, or in some other manner offends the senses, for example, by a foul stench. Also included in that term is pollution that contaminates a natural resource or otherwise renders it less than pristine or less than it was prior to release. Further, while the Court does not rule definitively on this issue, it notes the possibility of what have been termed "existence" and "intrinsic" values attributable to natural resources. These values also may be injured. *See* Anderson, *Natural Resource Damages, Superfund and the Courts*, 16 B.C. Envt'l Aff.L.Rev. 405 (1989); Cross, *Natural Resource Damages Valuation*, 42 Vand.L.Rev. 269 (1989).

16. Thus, the Court's interpretation of subsection 107(f) would not have eviscerated a portion of superceded subsection 112(d) as does Aerovox's interpretation. *See supra* note 8. This is so because a claim for non-divisible injuries like aesthetic injuries must be made, as subsection 112(d) formerly provided, "within three years of the discovery of the loss or December 11, 1980, whichever is later." The discovery of that "loss" may well have been made prior to enactment and the damages arising from that loss would nevertheless be recoverable as the foregoing discussion in the text demonstrates. Thus the language, "within three years from ... December 11, 1980," still has meaning because that formulation still produces the later date under certain circumstances.

termined time, but definitely after enactment.

III.

[5] The parties also disagree concerning which side bears the burden of proving whether natural resource damages are recoverable in light of the subsection 107(f) bar.[17] Aerovox argues that proof that the damages occurred post-enactment is an element of a natural resource damages claim and thus must be proved as part of the sovereigns' case. The sovereigns argue that subsection 107(f) is an exception to the general retroactive scheme of CERCLA. As such, the defendants would have the burden of proving what damages are retroactive and therefore within the exception.

No court has addressed this precise issue.[18] As noted above, however, courts have uniformly held that the entire purpose and remedial scheme of CERCLA is retroactive. Accordingly, a provision limiting relief to prospective damages is more appropriately interpreted as an exception to the statute. *Cf. Northeastern Pharmaceutical*, 810 F.2d at 747–48 (interpreting the "not inconsistent with the national contingency plan" provision of 42 U.S.C. sec. 9607[a][4][A] to place a burden on defendants to show that response costs incurred by the United States are inconsistent with that plan); *United States v. Maryland Bank & Trust Co.*, 632 F.Supp. 573, 578–79 (D.Md.1986) (placing the burden on the defendant bank to prove it came within an exception to the CERCLA definition of "owner or operator" and thus was free from liability); *United States v. Ottati & Goss, Inc.*, 630 F.Supp. 1361, 1394–95 (D.N.H.1985) (same as *Northeastern Pharmaceutical*).[19] It is a basic principle of statutory construction that the party wishing to come within the statutory exception bears the burden of proof. *E.g., United States v. First City Nat'l Bank*, 386 U.S. 361, 366, 87 S.Ct. 1088, 1092, 18 L.Ed.2d 151 (1967); *Ottati & Goss*, 630 F.Supp. at 1394–95. Such a result is also in keeping with Congress' intent to keep potentially responsible parties liable for the pollution they create.

Placing the burden of proof in this fashion does not violate due process, for:

> "[i]t is by now well established that legislative Acts adjusting the burdens and benefits of economic life come to the Court with a presumption of constitutionality, and that the burden is on one complaining of a due process violation to establish that the legislature has acted in an arbitrary and irrational way."

Northeastern Pharmaceutical, 810 F.2d at 733 (quoting *Usery v. Turner Elkhorn Mining Co.*, 428 U.S. 1, 15, 96 S.Ct. 2882, 2892, 49 L.Ed.2d 752 [1976] [citations omitted]); *see also Pension Benefit Guaranty Corp. v. R.A. Gray & Co.*, 467 U.S. 717, 730, 104 S.Ct. 2709, 2718, 81 L.Ed.2d 601 (1984) (holding that due process is satisfied "simply by showing that the retroactive application of the legislation is itself justified by a rational legislative purpose").

Aerovox has failed to show that Congress has acted in an arbitrary and irrational manner. Congress intended to impose broad liability for pollution caused by

17. Before that question is reached, however, it must be determined whether the damages in question are response costs or natural resource damages. Only with respect to damages falling under the latter category is the burden of proof issue regarding whether the damages are divisible reached.

18. The *Bunker Hill* court heard argument on the burden of proof issue but explicitly left it for another day. 635 F.Supp. at 675.

19. Aerovox contends that the burden of proof must be placed on the sovereigns, because to place it on Aerovox would mean that the sovereigns need not prove a causal link between Aerovox's releases and post-enactment damages. This interpretation would make the subsection 107(f) provision appear to be less an exception to the statutory scheme and more an integral element of the sovereigns' *prima facie* case on which, of course, they would bear the burden.

Aerovox's argument founders on a faulty premise. The Court's holding in no way eliminates the burden on the sovereigns to satisfy the burden of its *prima facie* case by establishing a causal link between releases and injury to natural resources and between those injuries and damages. Rather, once those links are established, the burden then shifts to Aerovox to prove, if it can, that particular natural resource damages occurred prior to enactment and thus fall within the statute's exemption.

the disposal of hazardous substances. *See Northeastern Pharmaceutical*, 810 F.2d at 733; *Ottati & Goss*, 630 F.Supp. at 1398; *Shell Oil*, 605 F.Supp. at 1073. In enacting subsection 107(f), Congress limited liability for natural resource damages (and only natural resource damages) because of the potentially "staggering claims" that could otherwise result, *Artesian Water Co. v. New Castle County*, 851 F.2d 643, 650 (3d Cir.1988),[20] but otherwise attempted to spread the cost of compensating for the pollution of this country's natural resources fairly among those who have contributed to the damage. While Aerovox may or may not be correct that Congress could have conceived of a "fairer" scheme, that is not the question before this Court. The compensatory scheme set out in section 107 is rational and therefore does not offend due process. Thus, just as CERCLA's retroactive nature with respect to response costs does not offend due process, *e.g.*, *Northeastern Pharmaceutical*, 810 F.2d at 733; *Shell Oil*, 605 F.Supp. at 1072–73; *United States v. South Carolina Recycling and Disposal, Inc.*, 20 E.R.C. 1753, 1761–62 (D.S.C.1984), neither does it with respect to natural resource damages.

IV.

Accordingly, for the reasons stated above, the motion of Aerovox for partial summary judgment is ALLOWED to the extent of ruling that, at most, Aerovox can be held liable only for damages occurring post-enactment, whether those damages derive from either pre-enactment or post-enactment releases or both. The motion is otherwise DENIED. Further, Aerovox bears the burden of proving what portion of damages caused by its releases are excluded from liability pursuant to subsection 107(f).

20. *See also Developments in the Law—Toxic Waste Litigation*, 99 Harv.L.Rev. 1458, 1565 (1986).

Domingo COLON, Concepcion Acevedo, Felix Perez, Jose Morales and Luis Vazquez, Plaintiffs,

v.

CASCO, INC., Defendant.

Civ. A. No. 86-0177-F.

United States District Court, D. Massachusetts.

June 13, 1989.

On appeal from decision of Michael A. Ponsor, United States Magistrate, in action under the Migrant and Seasonal Agricultural Worker Protection Act, the District Court, Freedman, Chief Judge, held that agricultural employer's policy making weekend work optional was a "working arrangement" under Migrant and Seasonal Agricultural Worker Protection Act, precluding employer from terminating employees for failing to report to work on weekend.

Affirmed in part and remanded.

1. Federal Courts ⇐668

Order acknowledging appeal excused lack of timely and effective filing of notice of appeal after it was determined that notice of appeal was ineffective because it was filed during pendency of motion to alter or amend judgment. Fed.Rules Civ. Proc.Rule 59, 28 U.S.C.A.

2. Labor Relations ⇐7

Agricultural employer's policy making weekend work optional was a "working arrangement" under Migrant and Seasonal Agricultural Worker Protection Act, precluding employer from terminating employees for failing to report to work on weekend; although no written agreement was handed over to employees that included weekend work policy, employees knew of the policy and relied on it when they failed

Mr. CRAPO. Thank you.

Next, the gentleman from Iowa.

Mr. GANSKE. Thank you.

Mr. Desvousges, is that correct? I guess I would like to learn a little bit more about contingent valuation methodology, something not quite as exciting as what we have been going through.

Can we go through in just a little bit of detail how one of these interviews is done?

Mr. DESVOUSGES. Sure.

One of the things that I think is also interesting is that as I was hearing a lot of the discussion, when we talk about public facilities liability, non-use values and contingent valuation, several just don't get mentioned in the same breath. So I kind of point that out before I talk about the process.

The typical interview process involves a random sample of households that is chosen in some area. And the sample is usually quite large—a thousand people perhaps in a State or perhaps a national sample of people, depending upon the study.

What happens then is an interviewer contacts the household, comes in and says, I want to conduct this interview about—usually it is about environmental and social issues. They don't key it off from the beginning, but very quickly, after you get into the interview, there is usually about 15 minutes or so, 10 minutes or so of kind of warm-up of different kinds of fairly straightforward kinds of questions.

Then the interviewer begins describing a particular resource situation, perhaps Blackbird Mine, for example.

Mr. GANSKE. Would that include large photographs or——

Mr. DESVOUSGES. Large photographs are frequently used, that is correct. I am waiting for video tapes and virtual reality, but I think they are probably shortly down the road, but almost always, some kind of photographic information is used.

These photographs, as you could already hear this morning, are always open to interpretation as to what is really being reflected in there, what kinds of injuries are being reflected. The interviewer then describes the injuries basically that the trustees have asserted.

Mr. GANSKE. If a photograph is shown with this huge gash or a scar in the landscape, most people are pretty concerned about that, wouldn't you say?

Mr. DESVOUSGES. They tend to react very strongly to that, that is correct.

Mr. GANSKE. Let's go on just a little bit. After they have gone through this, in your testimony, your written testimony, you gave a sample question, and the question was, is your household willing to pay "X" dollar amount in higher income taxes or some other method to have this program eliminated or avoided, the injuries I have described?

Apparently a single dollar amount is asked for each household; is that right?

Mr. DESVOUSGES. That is correct. What happens is, is that the researcher who is designing the study decides some array of bids that they are going to use in the survey, and they go through some pretesting process to determine what that is. They will frequently

use 5, 6, 7 bids that they will assign to different people randomly throughout the population. So it is not everyone gets a different bid, but everyone gets a randomly assigned bid, 1 of 7 different numbers usually, or 5 numbers. It depends.

Mr. GANSKE. So the numbers are based on a——

Mr. DESVOUSGES. On the judgment of the researcher as to what they think is necessary to try to estimate this relationship.

Mr. GANSKE. But this is a non-use estimate to begin with.

Mr. DESVOUSGES. Well, that is correct. This is a critical question, and one of the things in our studies that we have looked at is, do the answers that you get depend upon the kinds of bids that the researcher decides to use? And our results show that they do.

Mr. GANSKE. And the answer is never going to be lower than the lowest bid.

Mr. DESVOUSGES. It is impossible to get zero out of the survey, from my experience overall.

Mr. GANSKE. Why, when you do a survey or a question like this, why don't you ask an open-ended question?

Mr. DESVOUSGES. Well, they have been used in the past, and when I have done some of the studies that I have done, we have actually used some open-ended questions. The argument that is given in response to that is, they are too hard for people to answer.

Mr. GANSKE. Okay. Well then, why don't you go A, B, C, D, where you have a range?

Mr. DESVOUSGES. That has been used also. And the difficulty that you run into there is, what numbers do you put down in the range and will people's answers be affected by the numbers that are in the range? And these are the kinds of technical issues that can make a big difference at the end of the day in terms of how much damages somebody is going to be asking for.

Mr. GANSKE. To continue that, it seems that your written testimony basically says that the fundamental fault of this type of inquiry is that in the end, you are basically asking people, are they interested in cleaning up the mess?

Mr. DESVOUSGES. That is right, and the difficulty that I always have is, what does that really tell me in terms of the value that they have for the specific resources in question. What we often get in these kinds of surveys is what is called a warm-glow response, that people basically want to do something for the environment. So someone has knocked on their door and said, you can do something for the environment. All you have to do is say yes to this question.

Mr. GANSKE. Mr. Chairman, may I have just 1 more minute?

Mr. CRAPO. One more minute.

Mr. GANSKE. In 1 minute, what is a better way to do this type of evaluation?

Mr. DESVOUSGES. I don't think in 10 years I could give you a better way to do the kind of evaluation. Five years ago, when I was working for the Department of Interior, I felt like that many of these issues simply just hadn't been researched enough. As I have continued to look into the matter further, I have ended up with a lot more questions than answers. And my concern is that what we are ending up with is a technique that is not giving us reliable answers at this time. I think it is just not ready for this prime time,

and we are trying to use it not only in prime time, but in real litigation.

Mr. CRAPO. Thank you.

The gentleman from New York, Mr. Frisa.

Mr. FRISA. Thank you, Mr. Chairman.

I would just like to recap for the record my understanding of this whole situation. It is my understanding that once a site has been identified, eventually, I guess, in many cases of a protracted litigation, it gets to be cleaned up, and I guess that is phase one, so that the problem is abated completely, or is completely as is possible, and that what we are discussing today then is some restoration after that problem has been abated; is that correct? Just in general.

Mr. MCKNIGHT. Yes.

Mr. FRISA. And then what we are further discussing is a method by which we place a dollar value on that restoration.

Mr. DESVOUSGES. That is true.

Mr. FRISA. I am absolutely amazed that we actually go out and do these personal interviews with pictures or any other data to establish a value. This is the craziest thing I have ever heard in my life. It doesn't make any sense at all.

I guess it is not so terribly surprising when some members of this committee would talk about sending out an environmental police and using hyperbole, tongue in cheek, when this is a serious matter. I think all of us would like to make a reasonable restoration where that is possible for incidents that have occurred 1980 and later. It is my clear understanding that that was the original intent of NRD.

I think one of the things we need to consider is we have to make that cutoff date more explicit. It would seem to me that we might, because there have been incidences where we have gone backwards, and that was not the intent.

I think it is also clear that we have got to come up with a better methodology for placing a price tag on the restoration. It just seems to me to be so heavily subjective, and I think we have heard testimony, at least from some of the panelists, that you are going to get a result that you, the interviewer, would like to get based upon the methodology that we are currently using.

I think we need to restore some reasonableness, Mr. Chairman, and I would certainly welcome any thoughtful recommendations, and I would be happy to hear from any of you right now as to how we can improve it.

Mr. MCHUGH. Congressman, I just wondered if I can address your comments there.

Mr. FRISA. Please.

Mr. MCHUGH. I think the picture we have seen painted today is not totally correct.

Mr. FRISA. Which picture is that? That one?

Mr. MCHUGH. This picture down there. They don't have a big picture, although it is a controversial area, most the trustees are not availing themselves of CV at this time. There have only been 4 CV's that we know of that have been undertaken under CERCLA at this time, and the trustees are not out there looking to perform CV's at every one of these sites. In fact, the trustees are not out there looking to monetize damages at every one of these sites.

What the trustees are really doing, and the trend is today, the trustees are out there looking to work with industry to focus on natural resource damages during the remedial investigation and feasibility study so that we can reduce costs, and they even have a chance to build restoration into the remedy. That is what New Jersey is doing and that is what a lot of other States are doing.

If I may, one of the other things I would like to bring up today is the case that Mr. Meiser referred to before in Pennsylvania.

Mr. FRISA. You can do that on somebody else's time.

Thank you. I would like to get to Mr. Desvousges.

Mr. DESVOUSGES. I guess I am the other end of the table, so I would like to respond when I am referred to that way. My experience in working on a number of cases, some of which have reached settlements, is that while trustees may not be saying I am going to go out and I am doing an actual CV study, what they try to do is a shortcut, where they take a CV study that has been somewhere else and they say, well, for this situation, I think the number is X.

We are going to lower it by 10 percent here because maybe we are not quite as wealthy as California or wherever the study was done, but we are going to lower it to that. Here is the amount that we want for you, times the number of households in this State.

So my experience is that non-use damages are almost always the most contentious issue that arises in the natural resource damage assessment, along with what is the most cost-effective way of trying to restore the resources. We have lost sight of cost-effectiveness and restoration as well.

Mr. FRISA. But I can understand, though, how it is entirely difficult to establish a cost, because it is subjective. Do any of you have any suggestions for developing what all of us could agree is a reasonable framework? I think that is what we are really looking for.

Mr. HALL. Congressman, let me respond to that briefly.

We have established a panel of experts as headed by 2 Nobel Laureates, one represented and worked with Exxon during the Exxon Valdez situation, the other worked with the State of Alaska.

Those two economists headed a very distinguished panel that looked at this whole process and has helped us revise our regulations and put very strict standards on how we will apply this. So I think that the concerns are well-founded. It has to be done well and has to be done effectively. But it is only in a very rare case that it would ever be used, only when a massive injury has occurred.

Mr. FRISA. Mr. Chairman, I would ask unanimous consent for 2 additional minutes.

Mr. CRAPO. We will allow Mr. McKnight to respond to your question. Is that what you desire?

Mr. FRISA. Yes.

Mr. MCKNIGHT. Mr. Congressman, I just want to point out that the promise that the NRD Coalition has made includes the cost of restoring, replacing or acquiring equivalent resources. We only ask that that decision be a cost-effective one, that there be an analysis of the various methods of doing all of those things and then the least costly alternative be chosen.

We are talking about lost-use and non-use values. That is over and above restoration, restore, replace or acquire the equivalent. Our proposal is eliminate those totally. Not only are they not necessary to fully restore the resource, but they are a large part of the problem. That is what caused us to make this restorative statute into a punitive one.

Mr. CRAPO. Thank you.

I understand, Mr. McHugh, that you have a unanimous consent request to place a document into the record?

Mr. MCHUGH. Why, yes, I do, but I would like to respond to that last issue.

Mr. CRAPO. Very brief response.

Mr. MCHUGH. Very brief response. It is not the problem that the trustees are filing claims for contingent valuation methodology-type claims at every site.

And I would just like to again state that there has been only 4 CV's done under CERCLA at this point and 6 total that I know of under OPA, if you take into account OPA. So I don't think it is the problem, and it seems to be the tail that is wagging the dog during this discussion, and I would really like not to see that happen here.

Mr. CRAPO. Thank you.

And I had a request for you to be able to submit a document.

Do you have a document?

Mr. MCHUGH. Yes, I do have a document.

The document is a letter from the Department of Environmental Resources of the Commonwealth of Pennsylvania, and basically it disputes some of the contentions that Mr. Meiser has made in his testimony regarding the Douglasville site, and the two main points——

Mr. CRAPO. Without objection, we will allow the document to be inserted into the record, but we are under some pretty tight time constraints right now, so the document will be placed into the record.

Mr. MCHUGH. Thank you.

[The letter referred to follows:]

COMMONWEALTH OF PENNSYLVANIA,
DEPARTMENT OF ENVIRONMENTAL RESOURCES,
May 25, 1995.

SENATOR ROBERT C. SMITH
Chairman, Subcommittee on Superfund Waste Control and Risk Assessment
Committee on Environment and Public Works
U.S. Senate
Washington, DC

RE: Pennsylvania's Response to May 11, 1995 Statement of C. Keith Meiser Regarding State Natural Resource Damage Claim at Douglassville, PA Superfund Site

DEAR SENATOR SMITH: The Commonwealth of Pennsylvania, Department of Environmental Resources ("Department") is in receipt of the statement of C. Keith Meiser, Esq., senior counsel for CSX Transportation, Inc., delivered to the Subcommittee on Superfund Waste Control and Risk Assessment on May 11, 1995. Mr. Meiser's statement, which concerned the Department's claim for natural resource damages in connection with the Douglassville, PA Superfund site, advanced several arguments that the claim is unwarranted.

Several of Mr. Meiser's comments are inaccurate or potentially misleading. The Department takes specific exception to those comments as follows:

1. It is untrue to imply, as Mr. Meiser does in his statement, that the Commonwealth's initial settlement demand was for the almost $600 million figure cited in its Motion to Intervene. The figure cited was the ROD's projection of $600 million

as the cost for *optimal remediation* of the site's contamination, but the Department has never demanded that amount in litigation or settlement negotiations. The Department's initial claim was a small fraction of the $600 million figure.

2. The Department's natural resource damage claim is not an attempt "to raise revenues that the state can spend as it sees fit" on projects unrelated to the Douglassville site. If projects were to be agreed upon or proposed by the PRP's, the Commonwealth would insure that those projects have an appropriate nexus to the site.

3. The Commonwealth does not look to claim natural resource damages in every instance of contamination residual to a Superfund cleanup. The Department's initial claim was not "wildly speculative," as has been suggested. To the contrary, the claim was firmly grounded in a rationale and formula consistent with the U.S. Department of Interior regulations at 40 CFR Part 11.

4. The Department has not used the threat of conducting an assessment to leverage settlement, and has in fact delayed initiating the site's assessment for nearly a year.

5. The Department's concurrence in the 1989 ROD was based upon the nine National Contingency Plan Criteria. The Department concurred with the selected remedy but did so making an express reservation "to take independent enforcement actions pursuant to state and federal law." The Department, through this language, reserved its right to claim natural resource damages at a site marked by gross contamination residual to its Superfund cleanup and based upon a statutory provision that has been part of CERCLA since its inception.

6. Lastly, the Department notes that Mr. Meiser made several observations concerning the Department's enforcement history at the site and suggested that the Department approved of the facility's continued operation and polluting activities. In fact, the Commonwealth's actions were uniformly oriented to remediating and preventing pollution. Any allowance of the facility's continued operation hinged on the facility's compliance with applicable law and abatement of continuing pollution. It is simply not accurate to claim or imply that, as a regulator, the Commonwealth condoned pollution at the facility or in any way had a hand in injury to the site's resources such that its present claim for damages is of its own doing or otherwise unfair.

The Department thanks you for this opportunity to contribute to the Subcommittee's review of this important issue.

Sincerely,

ROBERT L. ORWAN, *Chief, Division of Remediation.*

Mr. CRAPO. And now the gentleman from Washington.

Mr. WHITE. Thank you, Mr. Chairman. I knew it was my turn because everybody had already left, so I knew it had to be left to me to talk.

And I would like to start off, Mr. Ginn, by welcoming you here to the other Washington. I represent a good chunk of Bellevue, and I understand it was raining there this morning. You might not find that too surprising.

And I would like to pick up on a couple things you mentioned in your testimony, because they really struck a chord with me. The basic thrust of your testimony was we really have to be careful when we try to identify what causes these various damages to our natural resources that we have to deal with and we have to be equally careful to figure out a way to actually solve those problems. And the issue that came to mind to me, and I am sure it comes to mind to everybody else, is the issue of salmon in the Pacific Northwest.

Can you just give me your sense, and you may not have a definitive answer, as to whether we have enough information now on what is causing the diminution in our salmon runs to really make an effective remediation of what is going on there?

Mr. GINN. Yes, I do, Mr. Congressman, have some ideas along those lines, and I think that the Pacific Northwest salmon are a very good example of some of the points I made in my testimony.

I believe there is irrefutable evidence that the salmon stocks today are not what they were in the past. There is no question about that. And I think there is a substantial amount of evidence that this is a multifaceted problem. It is a very complex one involving land use practices, upland forestry practices, hydroelectric development, dredging and filling of wetlands, and the important thing is to be able to separate out all of those factors, and including the uses of those resources, the fishing by both U.S. and foreign interests, recreational and commercial.

The important thing relative to natural resource damage assessments is, to the extent there has been a contribution of hazardous substances, it should only be that incremental change in those resources that the cost of which should be borne by a potential responsible party, that all of those other factors need to be sorted out.

It looks like there has been at least a relatively simple attempt to do that in the case of the Blackbird Mine that we heard about. In general, though, it is a very complex matter, and in my experience, what I have seen trustees do is take a very simple approach to that and look at both restoration and non-use costs being down to more pristine levels, predevelopment levels, rather than factoring out all of these other factors that we talked about and looking at only the incremental change that may be due to a hazardous materials release.

Mr. WHITE. That seems to be a very sensible approach. Is it realistic to be able to quantify something like that?

For example, in the Commencement Bay site that you mentioned in your testimony, do we have a way to figure out how much incremental damage was caused by industrial pollution and how much was created by other factors, or is there some reasonable approach we can take so we come up with a number that makes sense?

Mr. GINN. I am very familiar with the Commencement Bay site, and I believe there is, although I don't believe at the present it is being done. But I think it needs to be a very detailed, scientific analysis.

The problem with the present regulations is that they do not require this sound fundamental scientific evaluation of causation, and so it is done on a very generalized basis. There are scientific methods available, using statistical approaches, using incremental evaluations of habitat loss and all these other factors, that would allow trustees to get at that incremental change. The problem is that the science is not being used that is there.

Mr. WHITE. The problem is these are made as political decisions, not as scientific ones, and that is one of the things we are trying to get at here.

Are you familiar with the Eagle Harbor site on Bainbridge Island?

Mr. GINN. Yes, I am familiar with it.

Mr. WHITE. Do you have any sense what the situation there would be? Is there a lot of incremental damage caused by that particular site, do you know? Is there a way to quantify that?

Mr. GINN. Eagle Harbor is I think a good example of what I mentioned about some of the problems in dealing with these theoretical biological indicators. And one of the situations about Eagle Harbor

is the liver tumors that occur in bottom fish living in that area. The important thing about liver tumors in bottom fish is, and I learned this many years ago, I learned it in Commencement Bay, is that although those tumors may be an indication of exposure to many hazardous substances, not a specific exposure, but a generalized one, they do not seem to cause problems in the fish themselves. The bottom fish that get them grow, develop naturally, reproduce and live long lives.

And so my point is that we should be looking at the numbers of those bottom fish that are there and the use of those bottom fish by individuals, by the fishing public, the services they provide to the public, and not have either use-related damages or non-use damages that would be restoring a sublethal biological effect that in no way impairs the use of that resource by the public.

Mr. WHITE. I appreciate that very much.

Thank you, and thank you, Mr. Chairman.

Mr. CRAPO. The time of the gentleman has expired.

The gentleman from Massachusetts.

Mr. MARKEY. For 1 minute, thank you, Mr. Chairman.

Mr. CRAPO. I appreciate it, you need one.

We are under a vote restriction here.

Mr. MARKEY. One minute, and I appreciate it.

Mr. McKnight, on page 18 of your prepared testimony, you asked that current law should be changed so that NRD liability should apply only to an act of disposal of hazardous substances, the release of which caused injury to, destruction of or loss of natural resources that occurred after Superfund's enactment in 1980. Would that eliminate Alcoa's liability for mercury releases in Lavaca Bay?

Mr. MCKNIGHT. It is unclear based on the facts as we know them today.

Mr. MARKEY. Is that your intent?

Mr. MCKNIGHT. No. My intent is to cure the statute of some very serious problems that render it to be totally ineffective.

Mr. MARKEY. If in any deliberations here we ensure that Lavaca Bay continued to be covered under the old statute, would that be something that you could live with in report language?

Mr. MCKNIGHT. As I said before, Congressman, I don't know what the facts are in Lavaca Bay yet. We are engaged in a very extensive RI/FS process with Federal EPA right now.

Mr. MARKEY. Disposal took place from 1964 to 1970, but the injury continues into the 1980's and 1990's. Do you want that covered or not covered under any bill that we pass? Should you be inoculated against any liability?

Mr. MCKNIGHT. Trustees currently allege that there are natural resource injuries. I don't think there is any proof of injury——

Mr. MARKEY. If there are injuries and it is proven to be injuries, would it be okay if we wrote in that if injury is proven and it continues into the 1980's, that you continue to be covered?

Mr. CRAPO. The witness will answer and then we are going to have to shut down so we can vote.

Mr. MCKNIGHT. I don't think it will be fair to single out Alcoa as the only industry that should be responsible for pre-CERCLA conduct under NRD, no, Congressman.

Mr. MARKEY. The answer is no, and you want the taxpayer to pay for it. That is fine.

Mr. MCKNIGHT. I don't want the taxpayer to pay for it.

Mr. MARKEY. It is, don't tax you, don't tax me, tax that guy behind the tree. It is two people.

I thank you.

Mr. CRAPO. I thank the panel. As you may know by the bells, we are——

Mr. MARKEY. Thank you, Mr. Chairman.

Mr. CRAPO. We would like to thank the panel for coming today. We had a good hearing and we hope to be able to address this in future occasions as well. And this hearing is adjourned.

Mr. MEISER. Mr. Chairman, might I be given an opportunity to respond to the letter which is supposed to be a response to my testimony which I have never seen or been favored with a copy thereof?

Mr. CRAPO. The hearing record is open.

Mr. MEISER. Thank you, Mr. Chairman.

[Whereupon, at 12:45 p.m., the subcommittee was adjourned.]

[The following material was received for the record:]

CSX TRANSPORTATION,
LAW DEPARTMENT,
Jacksonville, FL, June 30, 1995.

HON. MICHAEL G. OXLEY
Chairman, House Commerce Committee
Subcommittee on Commerce, Trade and Hazardous Materials
Washington, DC

RE: CSXT's Response to May 25, 1995 Letter of Pennsylvania Regarding State Natural Resource Damage Claim at the Berks Associates Superfund Site

DEAR CONGRESSMAN OXLEY AND COMMITTEE MEMBERS: At the request of Martin McHugh of the New Jersey Department of Environmental Protection at the Subcommittee's hearing on Natural Resource Damage Claims on June 20, 1995, a letter from the Pennsylvania Department of Environmental Resources ("DER") dated May 25, 1995 was received into the hearing record. Pennsylvania's letter took exception to certain elements of my May 11, 1995 testimony before the Senate's Committee on Environment and Public Works, Subcommittee on Superfund, Waste Control and Risk Assessment, on Pennsylvania's claim for natural resource damages in connection with the Berks Associates Superfund Site. This letter responds to a number of the DER's comments.

The gist of the DER's letter seems to be that it had asserted NRD claims on top of the $50 to $100 million remedy of the Berks Associates site primarily because it had authority to do so, not because there was any significant resource loss to restore or replace. This is the problem with current NRD authority under Superfund: an NRD claim is easy for a state to assert, even with no significant resource loss to tie to a Superfund site and little meaningful control on how the exacted funds are used.

The following responds to a number of the DER's specific comments (following the paragraph numbering in the DER's letter).

1. First, Pennsylvania denies that it ever claimed nearly $600 million in natural resource damages over and above the $50 to $100 million remedy that EPA selected for the Berks site. In fact, the DER has repeatedly suggested that the nearly $600 million difference between the cost of the chosen EPA remedy for the Berks Site (in which Pennsylvania concurred) and that of the most conservative remedy, which EPA decided was not cost-efficient, is the rough outer limit of its natural resource damages claim. See pp. 4-5 of Pennsylvania's Memorandum in Support of its Motion to Intervene at Exhibit F to the Statement of C. Keith Meiser (June 20, 1995). The implication that $600 million is the rough measure of Pennsylvania's damages was also encouraged by the veiled threat that the Commonwealth would seek in litigation considerably more than the tens of millions of dollars of its initial formal settlement demand.

Meanwhile, Pennsylvania does not deny that settlement of this claim, as I testified before this Subcommittee, will not be below seven figures. However, there is no basis for Pennsylvania's Natural Resource Damage claim, which would not remedy any residual contamination at the site. Accordingly, even a mere million dollar settlement instead of a $600 million settlement does not represent a real compromise; rather, it represents a very substantial nuisance settlement. Pennsylvania's citation of the $600 million disparity between the remedy that EPA decided on and the remedy it might have chosen certainly suggests an attempt to use the potential size of alleged natural resource damages as leverage for a hefty NRD settlement.

2. Pennsylvania states that its NRD claim is not an attempt to raise revenues that the Commonwealth can spend as it sees fit. However, the Commonwealth has clearly stated that it does not intend for any monies it recovers to be spent in remediating the residual site contamination to which it points as the basis for its claim. Although CSXT welcomes Pennsylvania's assurance that the sums it is seeking from the Berks PRP's under the heading "NRD" will bear some nexus to the site and certainly hopes that the Commonwealth will honor this commitment, it is revealing that Pennsylvania's discussion to date of projects it will fund with its NRD claim have not focused on any need for nor any plan for restoration of any natural resources.

3. Pennsylvania contends that it does not claim natural resource damages in every instance of residual contamination remaining after a Superfund cleanup. However, since this is its first effort to assert a NRD claim, Pennsylvania has no track record to support such assertion. Moreover, counsel for CSXT was previously informed that Pennsylvania had a list of an additional 20 sites in the Commonwealth concerning which it intended to assert NRD claims. To the extent that these sites also present the issue of residual contamination, there is no apparent distinction between Berks and these 20 sites, nor other Superfund sites in Pennsylvania, that would provide any meaningful limit to the Commonwealth's perceived authority to assert NRD claims at any Superfund site where residual contamination exists. Even if it is accurate to say that Pennsylvania has not yet claimed natural resource damages in every instance of residual contamination could be the trigger for Pennsylvania's assertion of NRD.

4. The DER contends that it has not used the threat of conducting an assessment of purported natural resource damage associated with the site to leverage settlement of its NRD claim. CSXT respectfully disagrees. Pennsylvania has over the last year held the threat of conducting a damage assessment (at a cost of some $500,000, which Pennsylvania would undoubtedly seek to recover from the Berks PRP's) over the heads of the PRP's as a club to encourage settlement. Given the unreasonableness of Pennsylvania's NRD claims to date, the PRP's would also be required to fund a parallel or "shadow" damage assessment to compare against the results of the Commonwealth's assessment.

5. Pennsylvania contends that, even through it concurred in the 1989 Record of Decision issued by EPA, it reserved its right to assert natural resource damages based on contamination residual to the Superfund cleanup of the Berks Associates site. Given that it seeks to predicate its claim for NRD on or in connection with residual contamination at the Berks Site, Pennsylvania confuses Superfund authorities. On one hand, the statute provides that a State shall have an opportunity "to concur or not concur in EPA's remedy selection," 42 U.S.C. section 9621(f)(2)(A); if a State does not concur, the statute sets out a specific procedure for it to pursue its objections. *Id.* Pennsylvania concurred in the 1989 ROD, which represents a comprehensive site remedy (at a cost of $50–$100 million), but which would leave levels of residual contamination in on-site soils that EPA concluded would not represent a threat to human health or the environment. Now, Pennsylvania cites this residual contamination as a basis for claiming natural resource damages. Pennsylvania's assertions of NRD based on on-site contamination in which it concurred violates the careful balance in Superfund between EPA's remedial authorities and the states' roles in pressing their own positions.

Meanwhile, lost in Pennsylvania's discussion is any meaningful basis for claiming actual, off-site natural resource damages. It should be noted that by no stretch of the imagination is the vicinity of the Berks site any kind of Grand Canyon or Prince William Sound. Without depreciating the Commonwealth's interest in the natural resources adjacent to the Berks site, this is not a case where there is any evident basis for exacting $600 million or even $1 million from the site PRP's after all risks to human health and the environment have been resolved by implementation of the EPA ROD. We do not believe that Congress intended to allow claims for NRD with so little basis or connection to a site, and the fact that Pennsylvania can so easily

assert such authority points to the need for more specific guidance in the statute for such claims.

6. Pennsylvania argues that its allowing the Berks Associates operation to continue from 1970 to 1985 should not suggest that the Commonwealth condoned contamination resulting from its operations. CSXT does not and has not suggested that Pennsylvania condoned the contamination that resulted from the operations. Rather, it is another important reflection on the unfairness of add-on NRD claims like that of the DER in this case that not only did the PRP's who were sending used oil to Berks Associates in the 50's and 60's think they were doing the right thing (instead of simply discarding used oil, as was otherwise done throughout the country), but so also did Pennsylvania. In 1970, the Commonwealth agreed to the continued operation of the Berks Associates site and accepted the Federal Government's statement in court that "it is in the best interest of the public to maintain the operation of BERKS because such operation is of substantial benefit to the public welfare in eliminating waste oil..." *See* Exhibit B to the Statement of C. Keith Meiser (June 20, 1995).

CSXT appreciates the opportunity it had to testify before the Subcommittee on this important subject, as well as to supplement the record with this letter.

Very truly yours,

C. KEITH MEISER.

STATEMENT OF GARY J. TAYLOR, ON BEHALF OF INTERNATIONAL ASSOCIATION OF FISH AND WILDLIFE AGENCIES

The International Association of Fish and Wildlife Agencies and its member State fish and wildlife agencies appreciate the opportunity to submit a statement for the record on certain aspects of Natural Resources Damages (NRD) under the comprehensive Environmental Response compensation and Liability Act of 1980 (CERCLA or "Superfund"). Our comments will generally relate to the role of the State fish and wildlife agencies as public trustees of fish and wildlife resources; the value of fish and wildlife resources to the citizens of the Nation; and some comments and observations regarding the $50 million cap on liability, retroactive liability, and the contingent value methodology of damage assessment under Superfund. We respectfully request that this statement be included as part of the record for the June 20, 1995 hearing before the House Commerce subcommittee on Commerce, Trade, and Hazardous Materials.

The International Association of Fish and Wildlife Agencies, founded in 1902, is a quasi-governmental organization of public agencies charged with the protection and management of North America's fish and wildlife resources. The Association's governmental members include fish and wildlife agencies of the states, provinces, and federal governments of the U.S. Canada, and Mexico. All 50 states are members. The Association has been a key organization in promoting sound resource management and strengthening federal, state, and private cooperation in protecting and managing fish and wildlife and their habitats in the public interest.

The State fish and wildlife agencies have broad statutory responsibility for the conservation of fish and wildlife resources within their borders, including on most Federal public lands. The States are thus legal trustees of these public resources with a responsibility to ensure their vitality and sustainability for present and future citizens of their States. Our member State fish and wildlife agencies' interest in Natural Resources Damages (NRD) is thus compelling and our involvement in this issue is vital in order to satisfy our responsibilities to the citizens of this Nation. We strongly support the continued opportunity under CERCLA to recover damages from liable parties to enable the State fish and wildlife agencies to restore fish and wildlife resources and habitats adversely impacted by spills of hazardous materials. These resources would otherwise be permanently repaired or irreplaceably lost. We further believe that Congress intended that the public be compensated for the loss of use of public resources for the full time period of impact, from the time of discharge to the time of restoration.

During the last 20 years, a number of Congressional enactments have expanded federal jurisdiction over certain species of fish and wildlife traditionally managed by the States. However, except for certain species of marine mammals, under these Congressional enactments, state jurisdiction remains concurrent with federal authority for endangered and threatened species, migratory birds, and anadromous fish. State authority for fish and resident wildlife remains the comprehensive backdrop applicable in the absence of specific, overriding Federal law. And, where authority is concurrent, State fish and wildlife agencies share responsibility with the

Federal agencies as public trustees for listed threatened and endangered species, migrator, birds, and anadromous fish. Therefore, it remains clear that State fish and wildlife agencies have a vital interest in and vested authority for ensuring proper stewardship, as public trustees, of fish and wildlife resources, even on most federal lands.

Fish and wildlife provide a substantial source of economic income in the U.S. The attached reports summarize on a state by state basis, the significant economic benefits accrued from fish and wildlife related activities. Conservation of natural resources therefore ensures positive economic activity as well as jobs in many communities throughout the country. Recent data substantiate that fish and wildlife were enjoyed by 76.1 million residents in 1991 and had a nationwide economic impact of $106.1 billion (1991 National Survey of Fishing, Hunting and Wildlife—Associated Recreation).

Consumptive and non-consumptive uses of fish and wildlife resources in the U.S. contribute considerable sources of income. As stated in The Economic Contributions of Bird and Waterfowl Recreation in the United States during 1991, migratory waterfowl hunting alone accounted for a total economic impact in Ohio of $23,328,000 while contributing $724,000 in federal income tax and $451,000 in state sales tax. Other types of hunting in Louisiana that year contributed a total of $629,166,000; $20,909,000 in federal income tax and 9,370 jobs (The Economic Benefits of Hunting in the United States in 1991). Sportfishing in Ohio in 1991 had an economic impact of $1,530,084,000, contributed $46,630,000 in federal income tax and created 24,236 jobs (The 1991 Economic Impact of Sport Fishing in the United States).

The significant contributions of fish and wildlife through human enjoyment and use in all 50 states depend upon the health of ecosystems and the ability of citizens to benefit and profit from these resources. A further cap on liability or limit on the responsibility of industry for damage to natural resources will not only negatively affect the monetary resources going to states from these resources, but will significantly reduce the public's opportunity to realize economic benefits from viable functioning fish and wildlife resources.

Obviously, fish and wildlife resources also contribute to the quality of life for people. Fish, wildlife and people all rely on the same life support systems provided by healthy, functioning ecosystems. Thus a tangible and direct benefit of maintaining or restoring the integrity of fish and wildlife habitat is its' contribution to human health. For example, a degraded aquatic habitat for fish likely means water unsuitable for human consumption. The intangible benefits of fish and wildlife resources derive from the value they contribute to improving the quality of life for people in the ecosystems we share with fish and wildlife.

The Association would now like to offer some general comments on three principal issues relating to NRD under CERCLA.

I. $50 MILLION CAP ON TOTAL LIABILITY

The Association believes that this concept would be fair to public trust issues only if it can be guaranteed that the injuries a responsible party causes would result in damages of less than $50 million. This is obviously unrealistic and therefore any redefinition of the $50 million liability cap per release at each site would be asking the public and their natural resources and other agencies to subsidize responsible parties for the negligent action that caused the injury. Under a redefinition of liability caps, the States would obviously lose a very vital funding mechanism for restoring natural resources damaged by a hazardous waste event. The Association is strongly opposed to any attempts to further constrain, limit or redefine the application of the existing liability cap as it is now interpreted.

A major case that illustrates this point is the Exxon Valdez spill in Alaska. One of the restoration actions undertaken for damages from this spill required $89 million and is only a portion of the restoration activities deemed necessary for the injuries from this particular spill. With a $50 million cap not even this portion of the restoration could have been accomplished. The result would have been long term unrestored damage for important public resources.

As another example, in Texas, a spill event occurred recently that would have equaled or surpassed this amount of damage except for extreme luck. The oil tanker Mega Borg had an explosion and fire while lightering oil off the coast of Texas. The fire consumed most of the oil, and water currents present at that time prevented the oil from reaching the coast. If these fortuitous circumstances had not occurred, the 3.9 million gallons of crude oil spilled could have impacted some of the most productive waters in the Gulf Coast from Galveston Bay eastward into Louisiana. This occurred in June 1990 only a little over a year after the Exxon Valdez spill in Alaska.

These events illustrate that massive oil spills can easily cause over $50 million in damages to public natural resources and are not rare or improbable. To limit liability to this level would not offer appropriate protection for public resources, nor would it be a deterrent to industry to prevent such spills. It is highly inappropriate to suggest that it is justified to make the public absorb the impact of natural resource injuries over $50 million when responsible parties should bear full liability for their actions which resulted in the damage to public natural resources. Liability is a business expense the industry assumes for the profit potential under a free market economy.

II. CONTINGENT VALUATION METHOD

The Association believes that the contingent valuation method (CVM) is a legitimate assessment methodology and can and should be used to address damages resulting from lost use of natural resources by the public. The method recognizes that natural resources have inherent value to the public. CVM involves polling or other predictive methods to determine how much people value a particular resource; for example, how much would they pay to save a particular fishery or wildlife population. In some cases CVM is the only available method for assessing fish and wildlife value, and the alternative is to provide no compensation for damages which economists and others agree are real. CVM is a new economic rationale since past economic practices were only based on market place values, so nothing had value unless you bought it. Under this construct a bald eagle or peregrine falcon has no value. To truly recognize the value of public natural resources such as fish and wildlife, which are generally not bought or sold in the market place, such methods as CVM are critically important.

Another general analogy that speaks to the use of the CVM technique is that traditional economic practices would argue that air has no value since it is free for the breathing. The Association argues that it is inherently obvious that air has a value since no one could live without it, but it is equally obvious that air should not be allowed to deteriorate to a level that "fresh" air would become a commodity before society would value it. Indeed, the consequences of air quality regulations demonstrate that fresh-air has been recognized by the public as valuable and requires protection and regulation to ensure its integrity, as a life support system for humans and other biota. The Association believes that new economic methodologies are needed if the public is to get true restoration of damaged natural resources, and supports the continued development, refinement and use of these new methodologies such as CVM.

Contingent valuation methodology is a useful tool for trustees with potential use in major cases with extensive natural resource damage. However, the expense and requirements for using CVM restrict its use to such major cases where the responsible parties have ample opportunity to review its use. The trustees should be allowed to use any appropriate method in assessing damages so a cost effective damage assessment can be done. Restricting methods available to trustees constrains damage assessments, can increase their costs, and may ultimately result in suboptimal restoration of damaged public resources.

III. RETROACTIVE LIABILITY TO 1980

This issue does not deal with damage assessments from recent spills but for past spills or releases of hazardous materials such as in state and federal Superfund sites where impacts are continuing. Unfortunately, there are many potential Superfund sites in the U.S. and numerous sites are being found each year. There is also a backlog of investigations of potential sites, and it is not possible for natural resource trustees to find out about sites much less determine natural resource injuries within a short term liability for responsible parties. This is especially true since Congress amended the NRD provisions to prohibit the States from using Superfund monies for NRD assessment. Also, short term liability for natural resources damages will likely result in a great incentive for responsible parties to not reveal potential sites in order to limit their period of liability. Short liability limits would increase both injuries to natural resources and result in continuing jeopardy for public resources. Clean up of sites after natural resource liability has lapsed could result in continued injury and a lack of restoring natural resources, since without trustee involvement, natural resources may not be adequately considered in remediation planning.

In California, sport-fishing and hunting dollars contributed $1.4 billion in 1991 household income for a total economic impact of $4.7 billion ("Field and Stream" February 1994). Continuation of these activities and maintenance of that economic vitality in all states could be negatively affected nationwide if states become solely

responsible for cleaning up hazardous spills. Without incentives to use clean technology and the real threat of liability, industry may not take into consideration natural resources, therefore, it is imperative that liability not be reduced to short-term and the majority of the burden placed upon states.

It is unreasonable and unrealistic to overlook the importance that fish and wildlife plays in the economy of the country and livelihoods of people in a broad range of geographic areas. The nexus between habitat quality for fish and wildlife and humans is obvious, and the contribution of fish and wildlife to the quality of life is of incalculable valuable. If states, which are the principal public trustees of fish and wildlife resources, are to carry out the clean-up efforts associated with Superfund sites, they must be given sufficient means with which to do so. The elimination of retroactive liability would necessarily create either less clean-up or the need for the creation of additional funding sources. It would also probably result in the cleaning of fewer sites and certainly the restoration of fewer damaged resources. The Association strongly encourages that the retroactive liability be retained as in existing statute. In summary, the Association ardently supports the need for the continued opportunity under CERCLA to recover damages from responsible parties to enable the State fish and wildlife agencies to restore fish and wildlife resources and their habitats adversely impacted by spills of hazardous materials. The State fish and wildlife agencies are the principal trustees of these public natural resources and have responsibility to ensure the vitality and self sustainability of fish and wildlife resources for the citizens of this Nation. Fish and wildlife contribute significant economic benefit to society and a value that is immeasurable. The Association would oppose any efforts to further constrain the States ability to recover damages for restoration, such as further limits on liability or elimination of retroactive liability. We also strongly support the continued development, refinement and use of all assessment methodologies, including the Contingent Value Method, in determining the value of these fish and wildlife resources for damage liability.

RESPONSES TO SUBCOMMITTEE QUESTIONS BY KEVIN L. MCKNIGHT, ALUMINUM COMPANY OF AMERICA, ON BEHALF OF COALITION FOR NRD REFORM

Question: Mr. McKnight, as I understand it you are testifying on behalf of the Coalition for NRD Reform. The Coalition is proposing that there be no retroactive liability for pre-1980 conduct even when the release of hazardous substances continues after 1980 and second, that the $50 million liability cap apply to all responsible parties and the entire area affected by releases. Currently, NRD liability is statutorily capped at $50 million "per incident involving release." However, repeated releases are subject to multiples of the cap.

Mr. McKnight, with your two proposals, can you tell us how much of the cost of restoration for injured natural resources would be shifted to the taxpayers at the following eight sites: (1) Clark Fork, Montana; (2) Bunker Hill/Coeur d'Alene Basin, Idaho; (3) Lavaca Bay, Texas; (4) Hudson River Watershed, New York; (5) Housatonic River Watershed, Massachusetts; (6) St. Lawrence River, New York; (7) Saginaw Bay, Michigan; and (8) Los Angeles Harbor, California.

Answer: If the legislative proposal advanced by the Coalition for NRD Reform were adopted, none of the costs of restoration would be shifted to taxpayers.

The question assumes if trustees adhere to the prohibition on retroactive liability and to the cap on prospective liability then an unacceptably large amount of natural resource injury will remain which would, in turn, necessitate a taxpayer funded response. At the outset, it should be noted that when the same issues were considered in 1980, Congress reached the conclusion it should bar retroactive NRD liability and establish a per site cap on liability. That was a fair and rational public policy judgment then, and it remains so now.

Supporters of imposing NRD retroactivity and of abolishing the $50 million cap on damages ignore the fact that the conduct they want to retroactively condemn was legal at the time it occurred and was often the result of a specific governmental policy to encourage industrial development. To divert attention from these facts, proponents of imposing retroactivity ask "who pays" if NRD is not retroactive. That question, which is essentially the question being asked here, is based on several incorrect assumptions.

The first incorrect assumption is that restoration is part of clean-up. Once the NRD process begins, the cause of the problem is gone because restoration occurs after clean-up is completed, after any threats to the human health and to fish and wildlife have been abated. In fact, once the clean-up removes the threat to the environment, natural processes resume and recovery occurs.

For example, in Los Angeles harbor, PCB's and DDT were deposited into ocean sediment through a municipal sewage plant outfall. Although the site did not score high enough to be added to the National Priorities List, the government filed NRD claims against a municipal sewerage authority and others totaling $1.2–$1.8 billion. The populations of the allegedly impacted fish and wildlife are presently stable or increasing and even the government concedes natural recovery has been and is occurring. Nevertheless, the government wants to spend $1.2–$1.8 billion, among other things, to accelerate natural recovery by dropping a 6 foot sand cap over 6.5 square miles of ocean bottom with a depth up to 300 feet. As a matter of public policy, there are more pressing resource needs than spending up to $1.8 billion to accelerate the pace of restoration which is occurring anyway. Moreover, there is substantial evidence that dumping a 6 foot soil cap through 300 feet of ocean will actually make the situation worse by stirring up sediments and increasing the bioavailability of pollutants.

The next incorrect assumption underlying the "who pays" question is that there is some lost public use to restore. In most instances of retroactive claims, the site has been used for industrial purposes for so long that there never was a "public use." The use to which the area was committed, generally with federal, state, or local government support, was industrial use. The NRD program is not about creating new recreational and tourist opportunities where none existed before. It is about restoring environmental functions which had been subject to public use.

Proponents of retroactivity also incorrectly assume that only currently existing corporate entities benefited from industrial activities and, therefore, should pay for retroactive restoration. This assumption ignores the fact that the present corporate owner or operator of the site may not have been the entity which engaged in the industrial activity. Equally important, it ignores the fact that federal, state and local governments, including trustees, may have specifically encouraged the industrialization and collected royalties, severance taxes, property taxes, payroll and income taxes, sales taxes, etc. from the activity. If the beneficiaries of industrial activity are to be retroactively liable, then the list of beneficiaries should not be limited to the current corporate owners of sites.

The final incorrect assumption underlying the "who pays" question is that overpayments and the public have no other legal claim against responsible parties. In fact, other causes of legal action are available under public nuisance, trespass, or public trust doctrines, unless the state's statute of limitations has run. In that case, the state has already elected not to seek damages for natural resources under its available authority. In fact, certain states, such as Montana, have provisions in their state constitution or their state Superfund law prohibiting retroactive NRD liability. The trustees in such states are now seeking to get from Congress what the people of their state have already rejected as appropriate public policy.

Retroactive NRD liability is unfair and unnecessary, particularly when all threats to the environment have already been abated through clean-up. In this regard, the question assumes that the actual or potential NRD claims at each of the named sites actually reflect some required restoration. However, a significant component of currently pending NRD claims represent costs which no one, let alone taxpayers, would or should pay. NRD claims for the cost of addressing non-threatening resource injury often are predicated on unrealistic and excessively costly restoration plans that are not necessary to achieve the basic needs of restoration. If some form of restoration is deemed necessary after clean-up is concluded, the restoration plan should adopt the most cost-effective restoration method and should not include unrelated and inflated claims. In addition, NRD claims should not include claims for lost-use and non-use damages which are, by definition, surplus to what it would cost to restore, replace or acquire appropriate substitutes for the injured resource. A review of the eight named sites documents the excessive nature of NRD claims and is illustrative of the problems with the program.

LOS ANGELES HARBOR, CALIFORNIA

First, and most important, there is a serious dispute concerning the underlying premise of the question, i.e., that the discharge of DDT through the Los Angeles County Sewer District sewer system onto the Palos Verdes Shelf off the coast of Los Angeles, where it has been and continues to be buried by natural sedimentation, has caused injuries to natural resources. The NRD claims seek several hundreds of millions of dollars allegedly necessary to restore the ocean's sediments. Among the alternatives being considered is the unprecedented dumping of sand to a depth of six feet through up to 300 feet of ocean over 17.4 square kilometers of the Palos Verdes Shelf. The NRD claim also include $575 million in damages for "interim lost use" of the allegedly injured resource based on a flawed contingent valuation ("CV")

study. Among other problems, this CV survey was based on an assumption and characterization of an alleged injury to natural resources that is not occurring and cannot be supported.

The resources alleged to be injured include two species of fish, the kelp bass and the white croaker, and two species of birds, the bald eagle and the peregrine falcon. Notwithstanding nearly five years of effort and the expenditure of more than $23 million in studies (including $6 million for the CV study), the Federal and State governments have been unable to obtain scientific support for their claim that injuries to the four named species actually exist and that such injuries, if any, are tied to discharges of DDT from the Los Angeles County Sewer District sewer system. In fact the governments' own studies disprove their allegations.

Natural restoration of the Palos Verdes Shelf has been occurring for decades. Natural deposits of sediment have buried the DDT so that it is not "bio-available" and does not present a risk to the fish species in the waters. Indications are that the DDT, which ceased being discharged to the sewer system at least by 1971, is biodegrading, and the quantity of DDT estimated to be present at the site has declined by more than 40 percent from about 20 years ago according to the governments' own figures. Indeed, studies reveal dramatically declining levels of DDT in the fish over time, and the current levels are well below both Federal safety limits and levels at which reproduction is adversely affected. Government studies also show no decrease in the population of fish on the Palos Verde Shelf as compared to other so-called "clean" areas. In fact, the governments had much greater success catching fish at Palos Verdes than they did elsewhere during their study. Thus, the governments' own studies do not appear to support the allegation of injuries to the fish. The same holds true for the governments' alleged correlation between DDT and reduced eagle and peregrine falcon populations in the Southern California area. At about the time DDT was first released into the sewer system in the early 1950's, only one pair of breeding bald eagles remained in the area. The species prior disappearance from the area was due to factors such as altered habitat, hunting by ranchers and sportsmen, and looting of nests—all completely unrelated to DDT. Today, there are approximately ten pairs of bald eagles in the area. In the case of the peregrine falcons, the pre-DDT discharge falcon population and the current falcon population are virtually the same.

Moreover, the governments' proposed restoration method for the Palos Verdes Shelf—capping or dredging the area—pose a risk to the environment. There is a strong possibility, not adequately addressed by the government, that the remaining DDT, now embedded in the sediment and apparently biodegrading, will be released into the water column by the proposed government intervention. Once the contaminants are released, fish, birds and mammals could be exposed to it.

CLARK FORK RIVER

As is the case in Los Angeles Harbor, the State of Montana's claim for $635 million in compensable value and restoration damages at Clark Fork River is based upon flawed scientific and economic studies that grossly inflate the estimates of injuries and damages. For example, the State's restoration damages estimate is based, in part, on the cost of constructing a reservoir to store drinking water for the city of Butte. However, Butte has for decades had its water supplied by a river in another drainage basin that is unaffected by mining. Despite this fact, the State is seeking $61 million in restoration damages to construct a reservoir for Butte.

Montana has also ignored the fact that current remediation activities at the Clark Fork River sites, which to date have cost approximately $210 million, will fully restore any natural resource services which might have been lost. Moreover, almost half of the State's NRD claim is for alleged lost use and non-use damages. As noted above, such damages are surplus to restoration costs.

A reformed NRD program will not result in any burden to taxpayers because such changes will clarify what has been true all along, there are unlikely to be any residual injuries to natural resources in the upper Clark Fork River Basin after the hundreds of millions of dollars of remediation that the PRP's are now conducting.

COEUR D'ALENE BASIN, IDAHO

Asarco and Hecla Mining are the sole economic survivors among the several mining companies that operated mining properties in the Coeur d'Alene river basin from the 1880's to the late 1960's. In fact, mining activity during this period brought prosperity to the entire region in the form of direct and indirect economic activity associated with mining. The nation at large also benefited from the production of metals produced by these mines. Indeed, the U.S. Government itself actively encouraged the production of metals such as silver.

To place the pending claims into perspective, it is estimated that mines in which Asarco held an ownership interest represented but a minor fraction of the mining operations in the basin during the 1884 to 1968 period. However, the $1.4 billion claim brought by the Coeur d'Alene tribe exceeds Asarco's total value.

In considering the claim itself, it is significant that of the total $1.4 billion claim, $735 million is based on lost use and non-use values as opposed to actual restoration. These use damages include $200 million in lost tribal cultural and spiritual values although the Tribe's reservation is miles away from the valley. With respect to actual restoration, there is a respected body of scientific opinion which estimates actual restoration costs to be substantially less than those estimated by the tribe. For example, there is already a thriving natural terrestrial habitat in the area that experts do not believe would be enhanced by restoration activity. Similarly, claims for restoration of wildlife habitat based upon allegations related to trout and swan populations are questionable since it does not appear that the basin was ever a habitat for trout and there has been no demonstration of population impacts on swans. Again, inflated and unreasonable claims demonstrate the problem of arriving at a reasonable NRD restoration plan under current law.

HUDSON RIVER, NEW YORK AND HOUSATONIC RIVER, MASSACHUSETTS

No NRD claims have been asserted to date by any trustees for the Hudson River and Housatonic River sites. Indeed, the remedial investigation/feasibility study process is still underway at both sites, and no one knows what the remedy will be for those sites. Therefore, it is impossible to predict what restoration work, if any, will be required. However, current information indicates that PCB levels have fallen significantly, and natural recovery is occurring at both sites. Based on the information available at this time, if the reforms proposed by the Coalition are enacted, including refocusing the NRD program on restoring the measurable, ecologically significant functions of natural resources committed to public use and requiring that natural recovery be given the same consideration as other restoration alternatives, the taxpayers should not bear any costs of restoration for the Hudson River and Housatonic River sites.

LAVACA BAY, TEXAS

The remedial investigation/feasibility study process is still in the very early stages at the Lavaca Bay site. Although a preliminary natural resource damage screening has been undertaken by trustee, no assessment of potential damages or quantification of injury, if any, has been conducted. Because the RI/FS process is still ongoing and no assessment of potential damage or injury has been conducted, it is impossible to predict whether there are injured natural resources and, if so, what restoration work would be required. Based on information currently available and assuming the reforms proposed by the Coalition are enacted there is no reason to believe the taxpayers would bear any costs of restoration at the Lavaca Bay site.

ST. LAWRENCE RIVER, NEW YORK

The St. Lawrence River site involves three separate agency actions with three separate companies. These three different actions are in various stages of the remedial process and remediation has not been completed at any of these sites. Furthermore, no assessment of potential damage or quantification of injury, if any, has been conducted. As with the Lavaca Bay site, since remedial activities are still ongoing and since no assessment of potential damage or injury has been conducted, it is impossible to predict whether there are injured natural resources and, if so what restoration work would be required. Based on information currently available and assuming the reforms proposed by the Coalition are enacted, there is no reason to believe the taxpayers would bear any costs of restoration at the St. Lawrence River site.

SAGINAW BAY, MICHIGAN

The state trustee brought its claims solely under state law and, therefore, the NRD claim would not be affected by changes in Federal law.

As the case history of each of these sites demonstrates, the current statute scheme generates NRD claims which are excessive, unjustified, and often unrelated to restoration. In 1980, Congress could not have anticipated just how far awry the NRD program would go. The current Congress should restore a reasonable NRD program.

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